

GE Healthcare



# Common User Interface (CUI) Requirements and Style

Version 6

Revision A

22 December 2006

# Revision History

Revision	Date	Comments
Revision A	22 December 2006	Initial release.

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# 1 Introduction

This document contains the requirements for Common User Interface (CUI) Version 6 compliance. The requirements are integrated with explanations, examples, intentions, design rationale, and recommendations.

If there is any conflict between the requirements in any previous version and the requirements in CUI V4.2, the CUI V6 requirements will override the previous versions. In addition to the V6 topics, this document contains all topics covered in previous versions, including enhancements and clarification.

New and revised in CUI V6:

- Reorganization of sections to better fit the design process
- Introduction
  - Design Approach - new
  - Compliance – revised
  - References – Updated links to GE Healthcare Branding and Corporate Branding sites, added Common Projects
  - Contacts – removed list and added link to Support Central
- General Assumptions and Requirements – revised exceptions and size standards
- Fonts
  - Font Usage - added annotation font recommendation
  - Font specification for Languages Other than English – revised requirements
  - Capitalization – revised guidelines
- CUI Colors – Revised color applications to both palettes, change to P4 values
- Basic UI Guidelines
  - Text Alignment – revised guidelines for tables
  - Windows – revised title bar appearance and title text requirements
  - Dialog boxes – revised requirements
  - Messages – new and revised guidelines and requirements
  - Ellipsis Usage – new section consolidates ellipsis information, new requirements and recommendations
  - Expand and Collapse Functions – new section consolidates information, new requirements and recommendations



- CUI Controls – removed color and size references from most controls
  - Toolkit and Example Notes
  - Product Screen Examples
  - Configurable button behavior
  - Spin Box – new variations
  - Resizing Grippers – new section consolidates information, new requirements and guidelines
  - Tables – new requirements
- General Navigation
  - Changed “Primary Navigation” to “Application Navigation”
  - Revised requirements
- Patient Identification – added reference to Desktop and Session Management
- Ancillary System Status – New disk space icon and behavior
- Icons – Removed “Icon Style Characteristics” section (Icon Styles are now specified in a separate document)
- Identity and Branding – Removed specifications to be in accordance to Corporate Branding Standards
  - Preferred Branding Format (removed)
  - Example of Preferred Branding (removed)
  - Alternative Branding Styles (removed)
- Splash Screen and About Box Content – Updated to be in accordance to Corporate Branding Standards
  - Custom Graphic (removed, all products use the same style Splash Screen)
  - GE Monogram (revised, used to be “GE Branding”)
  - Product Name Information (revised, used to be “Product Name”)
  - Graphical Splash Screens – Updated to be in accordance to Corporate Branding Standards, new examples
  - Graphical Splash Screen Composition – new guidance section
  - Low-Lighting Variation - new
- About Boxes - Updated to be in accordance to Corporate Branding Standards, new examples
- Web Specifications – new section consolidates all web-related requirements
- Appendix A: CUI Approved icons – new appendix of approved icons
- Appendix B: Minimum Size Chart – new table to determine sizes of controls and spacing
- Appendix D: Common Applications – new list of related CUI project documentation on MyWorkshop and links

## 1.1 Intent

Our users have worked or continue to work with multiple products; for example, a technician may work with both an AW and an IT system. . The efficiency with which users complete tasks can be improved by designing products that facilitate transfer of learning from one product to another. Consistency of visual style and interactive behaviors enable the efficient use of our products and decreases the training time required to learn new products.

Product consistency must be considered on several levels:

- Intra-product (within a single product) consistency refers to the consistent application of the visual style and interactive behaviors within a single product.
- Inter-product consistency (across multiple products) refers to the consistent application of visual style and interactive behaviors across products.

The GEHC Common User Interface (CUI) is intended to create a unified image, look and feel, and user experience for GEHC products. The CUI requirements provide the foundation for building consistent user interfaces. Commonality and consistency for users will grow as multiple products re-use the same designs for the same features and functions. The CUI V6 requirements are focused on the basic UI elements for commonality. These requirements need to be applied in conjunction with thorough workflow analysis, user centered design process, CECOR, Six Sigma, and other efforts to integrate commonality.

## 1.2 Compliance

By default, a program that has a Graphical User Interface component must comply with the most current version of CUI requirements that is available at M1 of the program milestones. Exceptions must be managed through the IDG Lead System Designer (LSD).

eNPI notification for compliance occurs at M0.5.6, which calls for Design resource allocation & planning, Program teams committing to CUI compliance are encouraged to work with an IDG/CUI Representative while applying the requirements. By working with our team directly, you will have assistance as you incorporate what is appropriate for your product.

Checklist reviews for CUI compliance occur at M1.4.20 and M2.3.11. Additionally, compliance with CUI Requirements & Style specifications is not the only activity to create consistent, usable, and compelling user interfaces. User interface (UI) design should follow a User-Centered Design process consisting of observational research , iterative UI design and usability evaluations. This process conforms to the IEC 60601-1-6 Usability Standard. To review this standard, access information can be found in section 1.4 References (p. 12).

## 1.3 Document Procedures

Any issues or problems with this document should be reported to the CUI team. Please access the form titled "Enhancements or problems with CUI requirements or tools" on the CUI Support Central site:

[http://gein.med.ge.com/cui/support/DDTS\\_CUI\\_reporting.html](http://gein.med.ge.com/cui/support/DDTS_CUI_reporting.html)

PDF versions of the documentation are archived in Support Central and MyWorkshop (formerly eLibrary). Any subsequent revisions will follow MyWorkshop standards. The CUI Program Manager is responsible for determining the level of review required for a new revision to be added.

CUI documentation on MyWorkshop is located as follows:

- LIB0002 – Global Technology Operation (GTO)
- → BKS00166 – Interactive Design Group
- → → BOK01164 – Common User Interface

**Table 1: Common User Interface Requirements and Style documents in MyWorkshop**

Document Name	MyWorkshop Document Number and Link
CUI V6 Documents	DOC0084459 <a href="http://gemselib.med.ge.com/ematrix/documentcentral/eLibDocument.jsp?name=DOC0084459&amp;rev=1">http://gemselib.med.ge.com/ematrix/documentcentral/eLibDocument.jsp?name=DOC0084459&amp;rev=1</a>
CUI V4.2 Documents	DOC0063325 <a href="http://gemselib.med.ge.com/ematrix/documentcentral/eLibDocument.jsp?name=DOC0063325&amp;rev=1">http://gemselib.med.ge.com/ematrix/documentcentral/eLibDocument.jsp?name=DOC0063325&amp;rev=1</a>
CUI V4.1 Documents	DOC0051782 <a href="http://gemselib.med.ge.com/ematrix/documentcentral/eLibDocument.jsp?name=DOC0051782&amp;rev=1">http://gemselib.med.ge.com/ematrix/documentcentral/eLibDocument.jsp?name=DOC0051782&amp;rev=1</a>
CUI V3.2 Documents	DOC0042485 <a href="http://gemselib.med.ge.com/ematrix/documentcentral/eLibDocument.jsp?name=DOC0042485&amp;rev=1">http://gemselib.med.ge.com/ematrix/documentcentral/eLibDocument.jsp?name=DOC0042485&amp;rev=1</a>
CUI Icon Style	DOC0084457 <a href="http://gemselib.med.ge.com/ematrix/documentcentral/eLibDocument.jsp?name=DOC0084457&amp;rev=1">http://gemselib.med.ge.com/ematrix/documentcentral/eLibDocument.jsp?name=DOC0084457&amp;rev=1</a>

## 1.4 References

Table 2: Referenced documentation and links

Reference	Link
Global Design-Common User Interface (CUI) Support Central site	<a href="http://supportcentral.ge.com/products/sup_products.asp?prod_id=15917">http://supportcentral.ge.com/products/sup_products.asp?prod_id=15917</a>
GEHC User-Centered Design & Usability Support Central:	<a href="http://supportcentral.ge.com/products/sup_products.asp?prod_id=24332">http://supportcentral.ge.com/products/sup_products.asp?prod_id=24332</a>
Clinical Software Engineering Platform (CSE-P)	Support Central super community: <a href="http://supportcentral.ge.com/superfacilitator/super_community.asp?sc_id=30398">http://supportcentral.ge.com/superfacilitator/super_community.asp?sc_id=30398</a>  Java PTK Toolkit download site: <a href="http://gspnet.gso.med.ge.com/cgi-bin/gspDownloadCtr.cgi">http://gspnet.gso.med.ge.com/cgi-bin/gspDownloadCtr.cgi</a>
GE Healthcare and Corporate Branding	GE Healthcare Brand Site: <a href="http://gein.med.ge.com/branding/index.html">http://gein.med.ge.com/branding/index.html</a>  GE Healthcare Product & Packaging Guidelines (includes splash screens): <a href="http://gein.med.ge.com/branding/downloads/GEHealthcareProductBrand.pdf">http://gein.med.ge.com/branding/downloads/GEHealthcareProductBrand.pdf</a>  GE Healthcare Trademark Search: <a href="http://gein.med.ge.com/branding/trademark2.html">http://gein.med.ge.com/branding/trademark2.html</a>  GE Corporate Brand Central: <a href="http://www.gebrandcentral.com/brand/design_library/">http://www.gebrandcentral.com/brand/design_library/</a>
IEC 60601-1-6: Usability Standard (Support Central)	<a href="http://supportcentral.ge.com/products/sup_products.asp?prod_id=24332">http://supportcentral.ge.com/products/sup_products.asp?prod_id=24332</a>
Systems Security and Connectivity (SSCP) (Support Central) includes Security, Privacy, HIPAA, DICOM, and HL7 system level requirements	<a href="http://supportcentral.ge.com/products/sup_products.asp?prod_id=25359">http://supportcentral.ge.com/products/sup_products.asp?prod_id=25359</a>
International Organization for Standardization (ISO)	<a href="http://www.iso.org/iso/en/ISOOnline.openpage">http://www.iso.org/iso/en/ISOOnline.openpage</a>
American with Disabilities Act (ADA)	ADA website: <a href="http://www.usdoj.gov/crt/ada/adahom1.htm">http://www.usdoj.gov/crt/ada/adahom1.htm</a>  Complete ADA requirements regarding Electronic and Information Technology Accessibility Standards: <a href="http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2000_register&amp;docid=00-7719-filed">http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2000_register&amp;docid=00-7719-filed</a>
International Trademark Association (trademark basics)	<a href="http://www.inta.org/">http://www.inta.org/</a>
United States Copyright Office-Library of Congress (copyright basics)	<a href="http://www.copyright.gov/">http://www.copyright.gov/</a>

For information and references about IDG common applications, see Appendix D: Common Applications (p. 204).

## 1.5 Contacts

For the most current CUI team member contacts, go to the Support Central - Global Design-Common User Interface website:

[http://supportcentral.ge.com/products/sup\\_products.asp?prod\\_id=15917](http://supportcentral.ge.com/products/sup_products.asp?prod_id=15917)

## 1.6 Document Conventions

The CUI Requirements and Style document contains requirements, guidelines, images, and supporting information. This section defines the conventions used to present the information.

Text that includes language such as “should”, “it is recommended”, or “it is preferred” is meant as a design guideline. While such guidelines are important and recommended, the application is not required to follow them.

### 1.6.1 Requirement Format

Requirements always include the following:

- The prefix “Req.”
- A requirement number, usually a four- or five-digit number generated from DOORS
- The word “shall”
- Special formatting: bold, sans-serif, out-dented from regular text

This is an example of how a requirement appears in the document:

**Req. 0000: An example requirement shall appear in this manner.**

### 1.6.2 Tables and Figures in Requirements

Occasionally it is necessary for a requirement to refer to a table or figure. In those occurrences, the referenced table or figure becomes part of the requirement. Tables and figures are always numbered and the requirement refers to the table or figure by that number.

This is an example of a requirement referring to a figure:

**Req. 0000: An example requirement shall be implemented as shown in Figure 0.**

**Figure 0: Example of an image used in a requirement**



## 1.6.3 Deleted Requirements

Some requirements may be deleted in a release as new requirements replace older requirements, technology evolves, and external factors change (e.g., the change from GE Medical Systems to GE Healthcare). When a requirement is deleted, it appears in the release with strikethrough text and an explanation of why it has been deleted. Deleted requirements are removed entirely from the subsequent release.

This is an example of a deleted requirement:

~~Req. 0000: An example deleted requirement shall appear in this manner.~~  
(This requirement is removed from V6 because it has been replaced by Req. 0001.)

## 2 General Assumptions and Requirements

This section identifies requirements, recommendations, and assumptions that apply to the entire specification.

NOTICE: The CUI specifications do not supersede regulatory requirements pertaining to specific products. If other requirements or regulations are in conflict with the CUI specification, make the IDG team aware of the issue for resolution. The CUI specification will evolve to cover P&L needs that are not addressed in the current version.

### 2.1 Work with an IDG/CUI Representative

All program teams should consult with an IDG/CUI Representative when designing or modifying screens in the CUI style. If you do not have an IDG/CUI Representative assigned, contact the CUI Program Manager. (See section 1.5 Contacts, p. 13)

Consult with the IDG/CUI Representative if tools, functions, or designs are needed before they are officially released or if they are not specified.

### 2.2 Global Specifications

The following requirements and recommendations apply to the entire user interface.

#### 2.2.1 Requirements

**Req. 42:** GE employee credits shall not be displayed anywhere in the application that is visible to the end user.

**Req. 68:** CUI Controls shall appear and behave in a uniform manner throughout the product.

A CUI control is an interactive element of the UI used to initiate a specific function. For example: Command Buttons, Text Fields, Scroll Bars, Menus, and Trees. (See section 7 CUI Controls, p. 58).

**Req. 4089:** Programs shall apply the CUI approved style to all user interface elements for their platform.

Table 47 Toolkit Comparison Matrix (p. 118) shows acceptable platform variations for CUI Controls.

**Req. 3852: Third-party applications branded as GE Healthcare products shall be CUI compliant.**

Third-party software that is bundled with GE products but is not branded as a GE product (e.g., Adobe Acrobat) is excluded from this requirement.

Cases where third-party applications cannot be modified to be CUI compliant should be identified to the IDG/CUI Representative assigned to the product during checklist reviews.

**Req. 8855: Color coding shall not be used as the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.**

Per Americans with Disability Act (ADA) requirements, use text, borders, shapes, movement, blinking, or other indications in addition to color.

## 2.3 Recommendations

Development teams should conduct usability evaluations of all new or revised user interfaces to ensure product usability. Contact an IDG/CUI Representative for information on conducting usability evaluations.

Do not extract (copy and paste) the graphics from this document. User interface graphics should be generated from a Toolkit or obtained from an IDG/CUI Representative. This helps to ensure that the appropriate graphics are being used for the specification and that the graphics are of acceptable quality.

A Toolkit is a software program that renders UI screen controls (buttons, tabs, etc.) in the pre-defined CUI style. The current Toolkits are:

- Java PTK
- QT
- DirectSkin
- Web/CSS

Toolkits are available from the CSE-P download site:  
<http://gspnet.gso.med.ge.com/cgi-bin/gspDownloadCtr.cgi>

Section 7.19 Platform Support (p. 117) lists the CUI Controls and compares the appearance of each toolkit.

See Appendix C: Legacy Style Implementation (p. 201) for acceptable variations in applying the CUI style to Windows and Motif-based products.



## 2.4 Exceptions

Because the CUI specifications cover multiple modalities and platforms, it is inevitable that some requirements either do not apply or cannot be implemented for a given program. The IDG/CUI Representative assigned to the program will work with the development teams to identify exceptions and develop acceptable design alternatives when possible.

The CUI specifications have not been tested for small screens such as personal digital assistants (PDA). A small screen is defined as one measuring 26.4 cm diagonal—10.4 inches—640x480 pixels or smaller. Consult with an IDG/CUI representative to apply the CUI style to these devices.

**Req. 8856: Program teams shall identify to the IDG/CUI Representative instances where the CUI specifications cannot be implemented because of limitations in the product's platform or functionality during checklist reviews.**

The IDG/CUI Representative may grant an exception to the specification if the platform or chosen tool cannot support or properly implement the requirement. Identified exceptions will be marked as "Not Applicable" during checklist reviews.

**Req. 8165: Program teams shall provide evidence of compromised usability and acquire approval from an IDG/CUI Representative when requesting to deviate from CUI specifications.**

Consult with an IDG/CUI Representative if there is difficulty implementing the CUI specifications. The IDG/CUI Representative may grant an exception to the requirement based upon usability or ergonomic factors.

Provide user study or usability results supporting the decision. The amount and type of evidence required to grant an exception to a requirement is decided on a case-by-case basis.

The impact of deviating from the specifications should be thoroughly evaluated for consistency across products.

## 2.5 Size Standards

A given control and text should visually appear at approximately the same height and width when viewed on a monitor of any size or resolution (with the exception of small screens as defined in section 2.4 Exceptions, p. 17).

Because there is no one common monitor size or screen resolution across all programs, pixel measurements for controls or point sizes for fonts cannot be specified. CUI is moving towards specifying the literal screen size of the control or text in the objective standard of millimeters. For example, if a control is specified to be 12.7mm high, it is expected that it will appear to be 12.7mm on screens sized 1024x768 or 1920x1200 and in any resolution.

See Appendix B: Minimum Size Chart (p. 197) for a chart of minimum recommended control sizes.

## 3 General Navigation

The following sections describe ways of achieving consistency through screen layout and navigation design.

To properly implement CUI layout and navigation, consult an IDG/CUI Representative.

### 3.1 Screen Areas Defined

Screen design can be broken down to the arrangement and treatment of several basic areas that are common to the highest-level framework.

- High Level Access area (high level navigation area)  
The purpose of High Level Access (or high level navigation) is to give users a consistent location from which to initiate their main tasks or high level activities throughout the product. It allows navigation between the high level features. It allows navigation between activities that occur simultaneously or need to interrupt a current activity. High Level access is usually not procedural in nature.
- Application Navigation area  
The area of the screen where users are guided through key tasks and/or are provided with access to tools associated with key tasks within an application. Functions such as Tool Palettes and workspace controls are not considered Application Navigation.
- Workspace  
The main area of the screen used for entering, displaying, and manipulating data. Applications reside within the workspace.

### 3.2 High Level Access Navigation and Layout

**Req. 8168:** The High Level Access area shall not be used for the display of Tool Palettes or ancillary system status.

This area is reserved for access points to main product features. The items in the High Level Access area are not meant to perform tasks or to display ancillary system status information.

## 3.2.1 Types of CUI Controls for High Level Access

Refer to section 7 CUI Controls (p. 58) for definitions of individual screen controls.

~~Req. 8173: High Level access controls shall be either menus or toggle buttons.~~  
(This requirement has been removed from V6 because of differences in navigation styles between diagnostic imaging products and non-DI products. It has been made into a recommendation.)

It is recommended that High Level access controls for non-DI products be either menus or toggle buttons.

To help communicate where they are within the application, users should be able to toggle between High Level Access buttons or menus.

DI products use Desktop and Session Management for navigation. See section 3.4 Desktop & Session Management Controls for DI Workflow, p. 25.

**Req. 4309: High Level Access shall be consistently implemented within a product using the same CUI controls.**

CUI controls are screen objects such as menu bars, Toolbars, buttons, or icon buttons. For example, if the product uses buttons for the access area, all access points are buttons, and the access points are shown as buttons every time the access area appears on screen.

The choice of specific CUI controls should take user-centered design principles into consideration:

For High Level Access, select the control type that most clearly indicates the key function areas:

- Use **toggle buttons** when the navigation system is simple, memorable, and functions discretely; we recommend High Level Access buttons be limited to no more than six.
- Use **menus** when the navigation system contains many sub-categories. Menu titles serve as High Level Access points; items in a menu take the user to a place or initiate a task (such as Save, Copy, Paste, etc.). Menus are intended for use with content that is dynamic and extensible or for random-access tasks. Products that expect High Level Access to grow to a robust level should select menus over buttons.

## 3.2.2 Placement

Logical and consistent placement of the High Level Access area on the screen is critical for the users to learn and accomplish tasks within the product. Additionally, having a common placement for the area promotes intra- and inter-product consistency.

The following requirements specify where the high level feature area should appear on screen.

**Req. 4273:** For standard graphical user interfaces, the High Level Access area shall begin at the top left of the screen to indicate its place in the product's hierarchy.

For dual-monitor solutions, alternative placement of the HLA may be more useable or efficient. Please contact an IDG/CUI Rep for specific direction.

**Req. 8877:** For displays that are wall mounted (e.g., a patient monitor) or where the navigation is closely associated with hardware, the High Level Access shall be located as close to the location of the user as possible.

**Req. 4307:** The High Level Access area shall remain in the same location throughout the user interface.

High Level access may either occupy the full width of the screen or only a partial span. The length of the span depends upon the product's needs, number of access points, and space requirements.

### 3.2.2.1 Placement Samples

The following images are simplified examples of the placement for the High Level Access area.

See section 3.2.1 Types of CUI Controls for High Level Access (p. 19) for control type recommendations.

**Figure 1: Left navigation layout sketch**

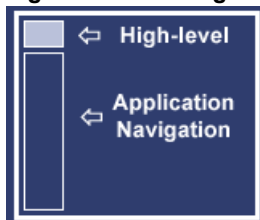


Figure 2: Examples of High Level Access buttons and Application Navigation

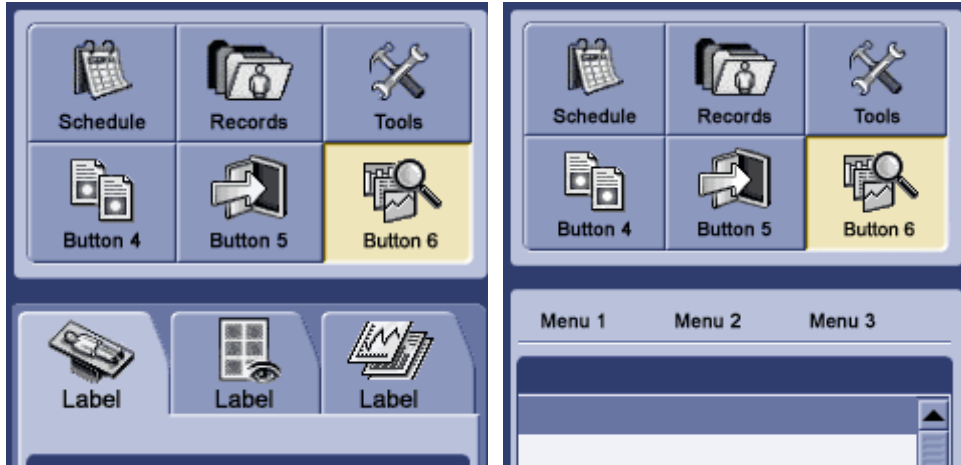


Figure 3: Top navigation layout sketch

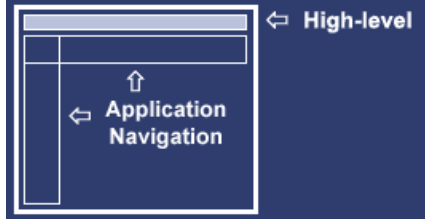
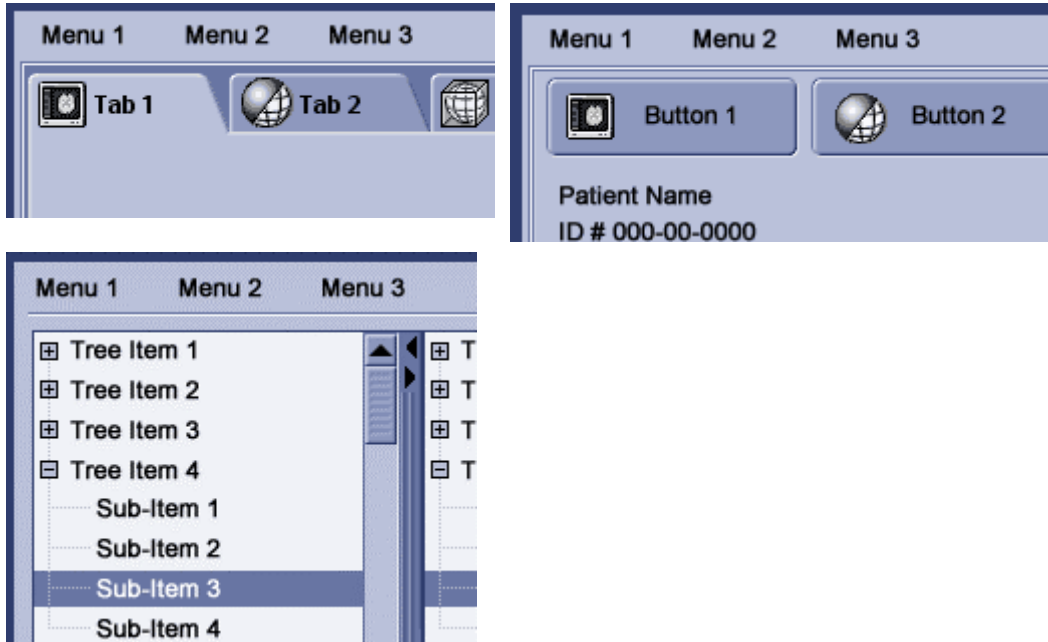


Figure 4: Examples of High Level Access menus and Application Navigation



Req. 4276: The High Level Access area shall be available to the user at all times.

Do not give High Level Access areas hide/show functionality at this time. The hide/show functionality will be addressed in future releases of the CUI Requirements and Style. Please consult an IDG/CUI Representative if you would like to use this functionality now.

Buttons used for the High Level Access should be arranged in a grid whenever possible.

**Figure 5: Examples of grid layouts**

*2x3 grid*



*2x2 grid with selected button*



*1x3 grid*



## 3.2.3 Styles and Behaviors

High Level access points must appear and behave consistently within the user interface. The following requirements specify visual styles and behaviors unique to the High Level Access area.

### 3.2.3.1 Toggle Buttons

It is recommended that High Level Access buttons that include icons have a text label if there is enough space.

Label text should be either below the icon or to the right of the icon. See section 14.3 Labels and Text Fields (p. 150).

~~Req. 8206: Buttons used for High Level Access shall not create drop-down menus (i.e., they shall not be combo buttons).~~

(This requirement is removed from V6 because business needs have evolved. Its intent has been incorporated into Req. 14583.)

**Req. 14583: If a button used for High Level Access has a drop-down list of tools, options, or tasks, the drop-down list shall only contain items that relate to that button's destination or function.**

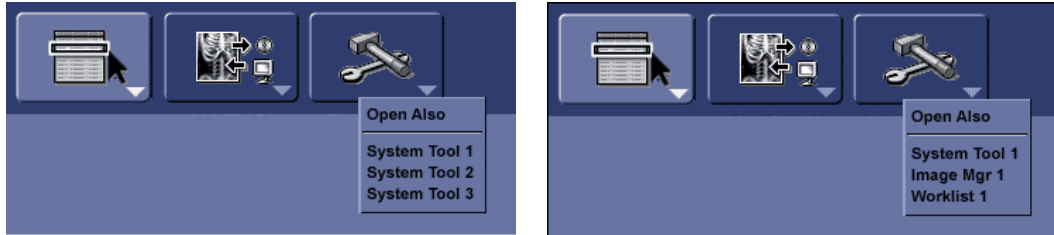
A High Level Access point should only lead to the specified application (e.g., System Tools). Allowing several hidden choices from one point is confusing and difficult to remember.

For example, the drop-down list from the High Level access button for System Tools only contains items relating to System Tools. The listed items cannot control the function or display of the Image Management or Worklist high level access points.

**Figure 6: Drop-down lists from HLA toggle buttons, correct and incorrect examples**

**Correct** - All items in drop-down relate to System Tools

**Incorrect** - Items in drop-down related to other HLA points



## 3.3 Application Navigation and Layout

The Application Navigation's function is to provide a workflow mechanism within an application.

### 3.3.1 Type of CUI Controls for Application Navigation

Only certain types of CUI controls are used for Application Navigation, depending on what type of CUI control is used in the High Level Access area. The following requirements specify what types of controls are allowed for use in the Application Navigation area.

Refer to section 7 CUI Controls (p. 58) for definitions of individual screen controls.

For Application Navigation, select the control type that most clearly moves the user through a structured workflow:

- Use tabs or buttons as the Application Navigation to move in and out of independent pages of content. The content between various tab or button sections is discrete. For example, parameters entered on one tab should not change the content of another tab.
- Use menus for Application Navigation when the content contains many sub-categories, allowing for dynamic and extensible content or random access tasks.

- Use trees for Application Navigation for content that is organized in a hierarchical manner; the tree structure should allow the user to “drill-down” to deeper levels of detail.

~~Req. 8216: The Application Navigation area shall use a different kind of CUI control than is used for High Level Access.~~

(This requirement is removed from V6 because business needs have evolved. It has been made into a recommendation.)

It is recommended that the Application Navigation area use a different kind of CUI control than is used for High Level Access.

Each level of navigation must be distinctive. Having two sets of the same kind of CUI control is visually confusing and makes it harder to distinguish between the High Level Access and Application Navigation areas.

The types of CUI controls allowed for Application Navigation depend upon the CUI control used for the High Level Access.

**Req. 8219: If toggle buttons are used for the High Level Access, the Application Navigation shall be menus, tabs, or trees.**

**Req. 8220: If menus are used for the High Level Access, the Application Navigation shall be buttons, tabs, or trees.**

~~Req. 8221: Secondary navigation within an application shall use a different kind of CUI control than is used in the Application Navigation area.~~

(This requirement is removed from V6 because secondary navigation is no longer a valid use case.)

If the Application Navigation opens another level of navigation, the new level uses a different type of CUI control: preferably a control type that is different from the High Level Access area as well.

**Req. 8223: Application Navigation shall be consistently implemented within a product using the same CUI controls.**

For example, if the product uses buttons for the Application Navigation, all Application Navigation points are buttons, and the navigation points are shown as buttons every time the Application Navigation area appears on screen.

## 3.3.2 Placement

Where the Application Navigation area appears on screen is limited by the type of CUI control used for the High Level Access area and its subsequent placement on the screen.

The following requirements specify where the Application Navigation area should appear on screen as dictated by the High Level Access area.

**Req. 8228: There shall only be one Application Navigation area within an application.**

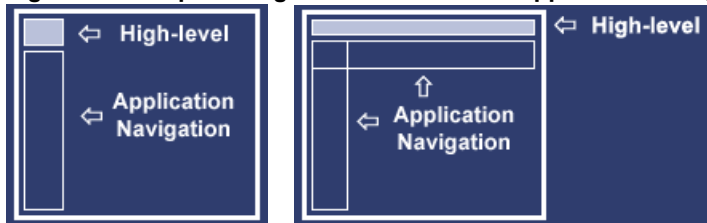
All Application Navigation points should be included in one area or categorized into subsequent levels of navigation (e.g., secondary).



If buttons are used for the High Level Access, the Application Navigation should be placed on the left side of the screen.

- Req. 8233: If menus are used for the High Level Access, the Application Navigation shall be placed on the left side of the screen or at the top of the screen (spanning the width).
- Req. 8236: The Application Navigation shall not be placed at the bottom of the screen, unless there is usability evidence to substantiate placing it on the bottom location.
- Req. 8237: The Application Navigation shall not be placed above the High Level Access area.

Figure 7: Example of High Level Access and Application Navigation layouts

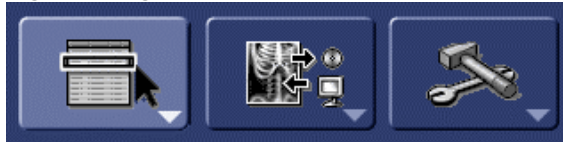


## 3.4 Desktop & Session Management Controls for DI Workflow

- Req. 14584: High Level Access controls for Diagnostic Imaging (DI) products shall follow the specifications detailed in the Desktop and Session Management SRS.

Desktop and Session management is a common application for DI products. The buttons used for High Level Access and tabs have different colors and behaviors than defined in this specification (sections 7 CUI Controls and 3.2 High Level Access Navigation and Layout). Refer to the Desktop and Session Management SRS located on MyWorkshop, document number [DOC0251169](#).

Figure 8: High Level Access buttons for Desktop and Session Management



The Desktop and Session Management SRS also defines navigation between open patient sessions. This style of navigation is only meant for patient sessions, not High Level Access.

Figure 9: Session tabs for Desktop and Session Management



## 4 Patient Identification Area

The patient identification area provides a method of associating patient data with the correct patient. Our products must assist the user in clearly associating data with the correct patient.

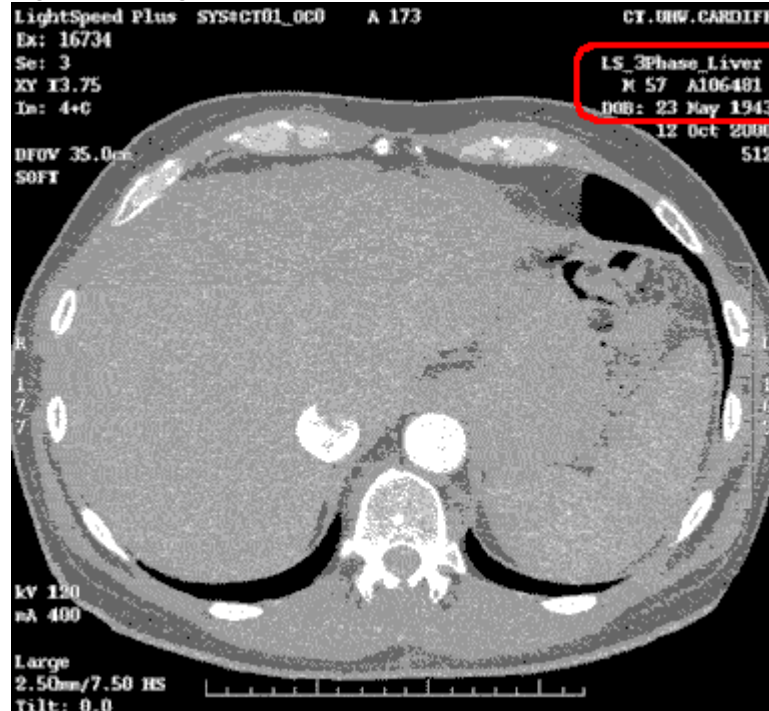
The requirements regarding the patient identification area only specify the placement of the area, not the content or extent of the information. Patient identification can include patient name, additional data to uniquely identify the patient (e.g., medical record number, age, birth date), or any supporting data to assist with the task. The content of the patient identification area will be determined by the product design team based upon what the users require in order to complete their tasks.

### 4.1.1 Area Locations

There are different ways to present the patient identification:

- Integrated identification  
Patient identification that is placed directly on the patient data, such as image annotation.

**Figure 10: Integrated identification example**



- Title area  
A title area that contains patient identification and is located directly with the patient data.

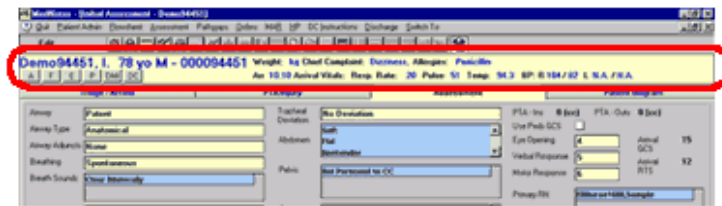
Figure 11: Title area example



- Banner area  
An information area at the top of the screen that is associated with the entire display.

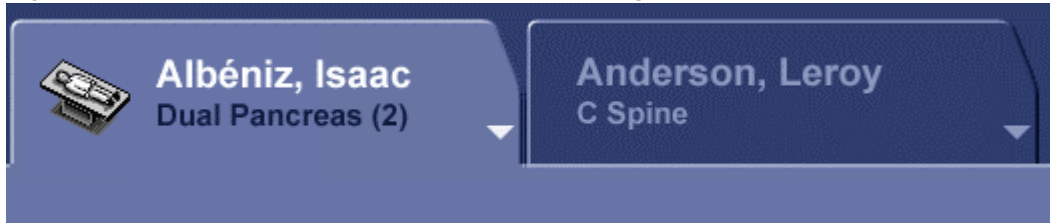


Figure 12: Banner area example



- Session management tabs  
The Desktop and Session Management SRS defines navigation between open patient sessions for Diagnostic Imaging products. Refer to the Desktop and Session Management SRS located on MyWorkshop, document number [DOC0251169](#).

Figure 13: Session tabs for Desktop and Session Management



Req. 4321: If patient identification is in a banner area, it shall appear near the top of the screen or above associated patient data or both.

Req. 4322: If patient identification is in a banner area, it shall be consistently located on all screens that display it.

**Req. 4857: If patient identification is in a banner area and more than one patient's data appears simultaneously, the banner shall clearly indicate that multiple patients' data is appearing.**

In most cases, a banner area should be used when only one patient's data appears on screen. However, if data from two or more patients appears, it must be obvious to the user that there is more than one patient's data is being shown.

**Req. 4323: If patient identification is in a title area, it shall appear above its associated patient data.**

**Req. 4325: If patient information is integrated into the patient data, the patient information shall be consistently displayed in the same areas on the data type, unless software cannot control the display of discrete patient data elements.**

Examples of data that software cannot control are PDF files, GIF images, JPG images, screen saves, and screen captures.

## 5 Ancillary System Status

Ancillary system status provides information to the user about the current operational state of their system/product and any related peripheral devices. The ancillary system status area is the place for information that does not require a prominent location on screen. Because this is mostly background information, it should be outside of the main work area and unobtrusive.

Types of ancillary system status information include, but are not limited to:

- Jobs or utilities that are running in the background
- The progress of a task, such as save or print
- Currently selected options
- The amount of available or used disk space
- Date and time

**Figure 14: Examples of ancillary system status information areas**



Program teams decide what system status to show in their respective applications. It is possible that some products do not need to display any ancillary system status. When it is decided which status to show, the program will use the CUI approved icons and the visual indications of state change as defined in this release.

**Req. 4331: Status or states that are designated as essential to patient care or critical for system function or current task shall not be placed in the ancillary system status area.**

Do not use the ancillary system status area for task-essential information, such as the state of scanning, scan time, safety-related information (e.g., "x-ray on"), monitoring activities, or information related to patient care.

# 5.1 Area Specifications

## 5.1.1 Location

**Req. 4330: If ancillary system status is displayed, it shall be placed in an area at the bottom of the screen.**

On any screen that displays the ancillary system status, the information should appear in the same location. Users who rely upon ancillary system status information also expect to see it on every screen.

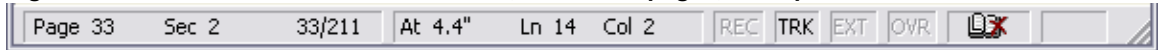
For products with multiple monitors, ancillary system status should be co-located or displayed with High Level Access and control display.

Windows and Microsoft applications are examples of displaying ancillary system status information at the bottom of the screen. The following screen captures show how different applications use the system status area.

**Figure 15: Microsoft Internet Explorer - Status of a page opening**



**Figure 16: Microsoft Word - Current location, number of pages, and options**



**Figure 17: Windows desktop - Active background utilities**



## 5.1.2 Size and Placement

The ancillary system status should be displayed in an area no smaller than 10.5mm (~30 pixels) in height, on the bottom of the screen.

The width of the ancillary system status area is determined by the number and size of items displayed.

## 5.1.3 Color of Area

It is recommended that the background color for the ancillary system status area is P10. See Table 4 : Standard Office Lighting Palette (p. 43) and Table 5 : Low-Lighting Palette (p. 49).

For Windows-based systems that cannot change the background color (or the background color may be changed by the user), the ancillary system status icons may be placed on a background determined by the operating system.

## 5.2 Date and Time

Programs may allow the time to be configured by the user or system administrator to display time in either a 12-hour or 24-hour format. The typography should be compliant with requirements outlined in section 7 CUI Controls (p. 58).

The decision whether or not to display the date is made by the program team.

The format for displaying time should be localized. ISO 8601 recommends using the 24 hour format. The time must be displayed in a consistent format throughout the interface. See section 14.8.7 Date Related Information (p. 170) for more information about date formats.

For 24-hour format, time should be displayed as follows:

- HH:MM (without seconds)
- HH:MM:SS (with seconds)

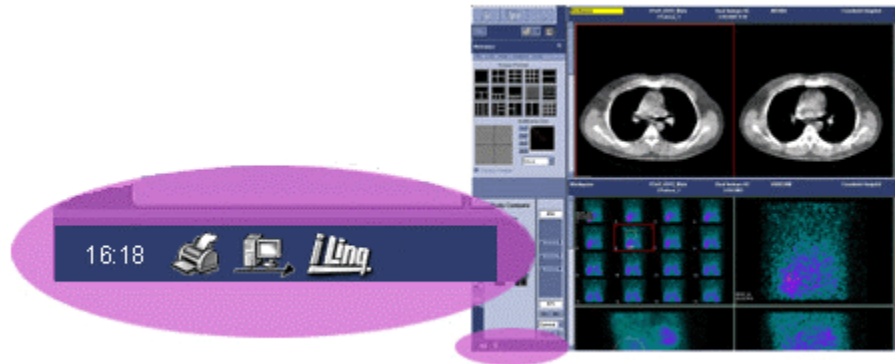
For 12-hour format, time should be displayed as follows:

- H:MM AM/PM (for single-digit hours)
- HH:MM AM/PM (for double-digit hours)

To display time in the 12-hour format with seconds, use the following format:

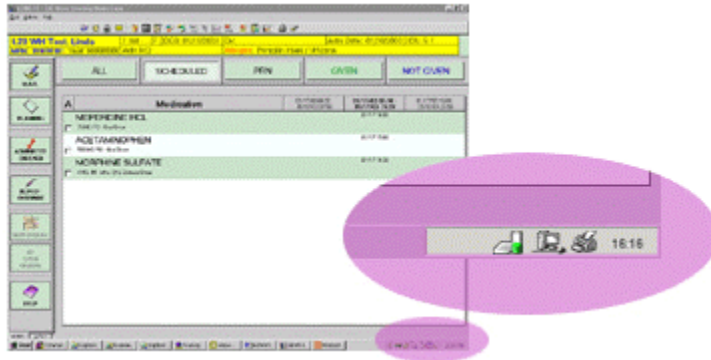
- H:MM:SS AM/PM (for single-digit hours)
- HH:MM:SS AM/PM (for double-digit hours)

**Figure 18: Example of time placement on the left side of the screen**





**Figure 19: Example of time placement on the right side of the screen**



**Req. 8311:** If the ancillary system status area is on the left side of the screen, the order, (from left to right), of elements shall be as follows: date, time, icon1, icon2, etc. If the ancillary system status area is on the right side of the screen, the order from (right to left) shall be as follows: time, date, icon1, icon2, etc.

## 5.3 Ancillary System Status Icons

Icon use must be compliant with the requirements stated in section 9 Icons (p. 132). Where they exist, CUI approved icons from Appendix A: CUI Approved Icons (p. 194) should be used.

### 5.3.1 Order

**Req. 8317:** Within a given product, the order of ancillary system status icons shall remain the same on every screen that displays the ancillary system status information.

The order in which the icons appear is determined by the respective application. The order, however, needs to remain consistent, because placement is important as a visual marker during changes in state.

- On products that place the ancillary system status on the left side of the screen, icons should populate the area from left to right, next to the time.
- On products that place the ancillary system status on the right side of the screen, icons should populate the area from right to left, next to the time.

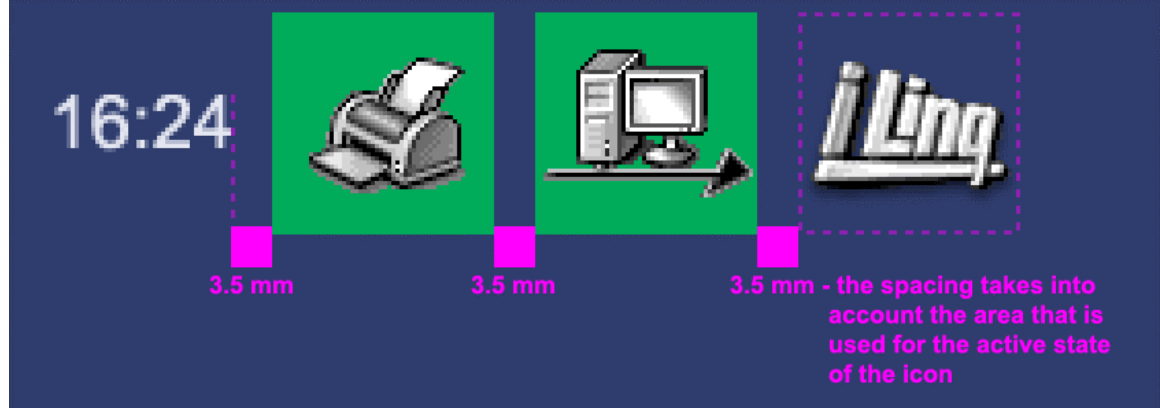
When an icon does not appear on a particular screen or state (such as the idle state of print), a gap should be left in its place.

### 5.3.2 Spacing

**Req. 8323:** Icons shall have a minimum of 3.5mm space between the borders of each icon.

The borders of the icon refer to the outside edge of the icon in its active state. This spacing must remain consistent in all icon states. That is, the icons shall always remain the same distance apart in all states.

**Figure 20: Example of icon spacing (enlarged to show detail)**



### 5.3.3 Size

Ancillary system status icons should have a minimum height of 8.5 mm. The width is unspecified.

### 5.3.4 Color

All ancillary system status icons use the standard color palettes as described in section 9 Icons (p. 132).

## 5.4 State Change - Standard Convention

Most ancillary system status icons have the following states: idle, failed, and active. Some icons, however, cannot use these states or require other states, such as progress or a level indicator. These icons and states are addressed in section 5.5 State Change - Exceptions (p. 36).

Future releases will address additional states and derivatives of states.

**Req. 8335: Ancillary system status icons shall use both color and shape to show changes in state.**

To be compliant with the Americans with Disability Act (ADA) Requirement “color coding shall not be used as the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element,” changes in state for ancillary system status are to be indicated with two visual cues: color and shape.

(36 CFR Part 1194 Electronic and Information Technology Accessibility Standards (ARCHITECTURAL AND TRANSPORTATION BARRIERS COMPLIANCE BOARD))

For the complete ADA requirements regarding Electronic and Information Technology Accessibility Standards, go to the following website:

[http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2000\\_register&docid=00-7719-filed](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2000_register&docid=00-7719-filed)

Go to the ADA website for more information about ADA requirements:

<http://www.usdoj.gov/crt/ada/adahom1.htm>

## 5.4.1 Idle State

The idle state is displayed when the system, function, or device is functional but not actively processing.

In the idle state, the icon will have a transparent background so that the border of the symbol is its natural shape. The color and characteristics of the icon is the same as the active state except that the icon does not have the green background.

## 5.4.2 Failed State

The failed state is displayed when an activity, function, or device has failed.

In the failed state the icon consists of the original icon overlaid with the international slash. The slash should be CUI Auxiliary Red (see Table 6 : CUI Auxiliary Colors, p. 55).

**Figure 21: Sample of failed state**

*Actual size*



*Enlarged to show detail*



## 5.4.3 Active State

The active state is displayed when the system or device is currently processing a task on the local disk.

In the active state, the icon consists of the original icon with a square CUI green background. The green background should be visible by a minimum of 1mm width

around all sides of the icon. If there is more than 1mm of “padding”, the icon should be centered in the green area.

**Figure 22: Sample of correctly and incorrectly illustrated active states**

*Correctly illustrated*

*This icon has an equal amount of “padding” between the symbol and the border on all sides.*



*Incorrectly illustrated*

*This icon does NOT have an equal amount of “padding” on all sides. The symbol touches the border on the right side (circled area).*



## 5.5 State Change - Exceptions

Exceptions in these visual indications exist where the change in state does not include an idle, failed, or active state -- such as where level or progress indicator is necessary. The state changes and visual indication for these exceptions are listed below, classified by icon type.

### 5.5.1 Print

The use of the print icon is appropriate for monitoring the activity of any data being printed to hardcopy output, whether it is film, paper, or any other type of media. In the instance where film output and paper output can be produced simultaneously on two separate devices, detailed information (to be addressed in a subsequent release) identifies and defines concurrent activities.

The active and failed states for print follow the standard icon conventions. However, for the idle state, programs have the option to either show (express) or not to show (suppress) the icon.

In either case, it is imperative that the order of the icons remains consistent. In the case where the idle state is suppressed, an empty space remains where the failed and active states normally appear.

**Figure 23: Sample of options for states of print**



## 5.5.2 Battery

The system status of battery does not have the conventional failed, active and idle states, but rather displays a level indicating the remaining amount of charge left in the battery.

Multiple level states are displayed by using one of two color states, which are sufficient level or insufficient level. The program team will determine the threshold level at which a charge is considered a sufficient or an insufficient level of the charge and will use the icons appropriately.

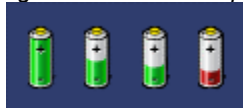
A tooltip on mouse over shows the exact amount of charge remaining.

- For levels considered sufficient, the contents of the battery cell should be colored CUI green and should be scaled proportionately to the level they represent.
- For levels considered insufficient, the contents of the battery cell should be colored CUI red.

It is preferred that the battery icon is displayed in a vertical orientation. However, it is acceptable to display the icon in a horizontal orientation.

**Figure 24: Samples of levels for battery**

*full charge* *empty (insufficient battery charge)*



## 5.5.3 Disk Space

Disk space is used to monitor the amount of space remaining on a local hard drive or network location. Disk space does not have the conventional active and idle states; but rather indicates the amount of remaining space.

The disk space icon shows an approximate amount of disk space remaining on the hard drive. A tooltip on mouse over informs the user of the exact amount of space remaining. The default is to display the amount of remaining space in bytes (KB, MB, GB, etc). However, the text displayed in the tooltip is configurable and can be changed to display information that is more meaningful to a product's end users. For example, the tooltip may show the number of images, exams, or waveforms remaining.

**Req. 8800: The text displayed in the tooltip shall be configurable by the program team to display information that is meaningful and pertinent to the end user.**

The icon color shows two states -- sufficient space remaining or insufficient space remaining.

- For levels considered sufficient, the contents of the container should be scaled proportionately to the level it represents.
- All the segments of the container turn red as the container approaches the full state.

Program teams set the threshold at which the amount of space remaining is considered sufficient or insufficient.

Insufficient space remaining is displayed by a CUI red level representing the proportionate amount.

**Figure 25: Samples of disk space**



**NOTE:** The icon is capable of showing up to 16 levels for both the sufficient (green) and insufficient (red) states. Figure 25 above shows a representative sampling of the states.

The error state shown in Figure 26 does not display any levels. The container is empty and the icon is overlaid with the red international slash. The error state should only be used to indicate a problem with the drive (not connected to the network, hardware malfunction, etc). If possible, a tooltip on mouseover or a message should inform the user about the nature of the error. The error state **should not** be used to indicate a full disk.

**Figure 26: Disk error**



## 5.5.4 iLinq

iLinq is a GEHC remote service product. The iLinq icon is displayed on the user interface in the following states:

- Idle - meaning the product has the capability of being serviced remotely by GEHC via iLinq.
- Servicing - meaning a GEHC service technician is currently accessing the machine using iLinq. A user may maintain partial functionality during this process.
- Initiating Chat Session - meaning that concurrently with the servicing of the machine, a GEHC service technician is trying to initiate an on-line chat with the user.

Because there is a sequential order in which the states occur, the icon needs to be “progressive” in nature. In compliance with ADA, each of the states displays a visual cue in addition to color.

### 5.5.4.1 Idle

In the idle state, the icon is represented by text spelling of the product brand name. It has a transparent background so that the border of the icon is its natural shape.

### 5.5.4.2 Servicing

In the servicing state, the icon consists of the icon used in the idle state with a static CUI green background.

### 5.5.4.3 Initiating Chat Session

In the initiating chat state, the icon alternates between the Servicing state and an image with a telephone receiver and sound waves.

The recommended standard for one complete icon blinking cycle is between 1.5 - 2.0 seconds as defined in IEC 60601-1-8:2003 Medical electrical equipment.- Part 1-8 “General requirements for safety” and “General requirements and guidelines for alarm systems in medical electrical equipment and in medical electrical systems.”

**Figure 27: Samples of iLinq icons in all states**

*Idle*



*Servicing*



*Chat*



*(animated, alternates between the two graphics)*

To see the Chat state animated, go to the following location on the Support Central - Global Design-Common User Interface (CUI) website:

[http://data.supportcentral.ge.com/upload/15917/doc\\_1595487.pps](http://data.supportcentral.ge.com/upload/15917/doc_1595487.pps)

**NOTE:** The PowerPoint show resides on Support Central. SSO login may be required.

## 6 CUI Colors

Color provides a large part of the identity and branding of GE products as well as helping to make parts of the screen more visible.

When applying color, work with an IDG/CUI Representative to determine the proper applications of color.

Refer to section 7 CUI Controls (p. 58) for help identifying objects.

A basic, Excel-based tool to aid in finding the appropriate CUI color for a given control or usage is available from the Support Central - Global Design-Common User Interface website:

[http://supportcentral.ge.com/products/sup\\_products.asp?prod\\_id=15917](http://supportcentral.ge.com/products/sup_products.asp?prod_id=15917)

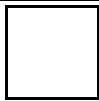





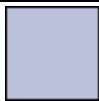









## 6.1 24-bit Color Palette

Throughout this document, the CUI colors are referred to by a “P” number, e.g., P1, P7, and P12. The color, RGB value, and Hexadecimal (Hex) value are listed in Table 3 CUI Colors.

If a visually acceptable result cannot be achieved using the colors defined in Table 3 CUI Colors, contact an IDG/CUI Representative to help develop a solution.

Table 3: CUI Colors

Color Name	Color Sample	RGB Value	Hex Value
P1		R - 255 G - 255 B - 255	FFFFFF
P2		R - 240 G - 242 B - 247	F0F2F7
P2.2		R - 200 G - 206 B - 226	C8CEE2
P3		R - 186 G - 190 B - 204	BABECC
P4		R - 154 G - 158 B - 176	9A9EB0
P5		R - 228 G - 231 B - 241	E4E7F1
P6	(deleted)		
P7		R - 186 G - 193 B - 218	BAC1DA
P8		R - 141 G - 152 B - 190	8D98BE
P9		R - 104 G - 117 B - 163	6875A3
P10		R - 047 G - 061 B - 110	2F3D6E
P10.4		R - 016 G - 028 B - 073	101C49
P11		R - 000 G - 000 B - 000	000000
P12		R - 238 G - 229 B - 186	EEE5BA
P13		R - 255 G - 241 B - 171	FFF1AB

## 6.1.1 Lighting Range

According to the Illuminating Engineering Society of North America's "IES Lighting Ready Reference," the recommended standard for the lighting of radiographic and fluoroscopic rooms is between 20-50 lux (2-5 foot-candles).

A sample of actual light levels of reading rooms in various facilities in the United States ranged between 8.61-153.92 lux (0.08-14.3 foot-candles), with a mean of 43.11 lux (4.0 foot-candles).

When developing screens to be used in a dark reading room, the usability evaluation should be conducted with the lighting adjusted levels within 20-50 lux (2-5 foot-candles).

The CUI colors accommodate indoor viewing environments, including dark reading rooms. The following sections define two different palettes:

- **Standard Office Lighting:** Used for most screens that will be viewed on a color monitor in an environment with standard lighting, above 50 lux (5 foot-candles). This palette has not yet been tested for viewing on a monochrome monitor. See section 6.1.2 Standard Office Lighting Palette (p. 43) for more information.
- **Low-Lighting:** Used for screens that will be viewed in a Low-Lighting environment, below 50 lux (5 foot-candles), on either a color or monochrome monitor. The palette and color usage was derived from testing at various lighting levels. See section 6.1.3 Low-Lighting Palette (p. 49) for more information.

**Req. 11: Products that are typically viewed in a Standard Office Lighting environment shall use the color palette application specified in Table 4: Standard Office Lighting Palette.**

**Req. 8857: Products that are typically viewed in a Low-Lighting environment shall use the color palette application specified in Table 5: Low-Lighting Palette.**

Products that move between different lighting environments have two options:

- If the platform supports the functionality, the application may allow the user to switch the user interface between the Standard Office Lighting and Low-Lighting palettes.
- If the platform does not support a palette switching function, work with an IDG/CUI Representative to determine which palette should be used for the application.

**Req. 12: For systems unable to support full color, programs shall work with an IDG/CUI Representative to determine an alternate palette.**

Component colors may be optimized (quantized down) as long as optimization does not affect the graphic quality of the final element.

If you cannot achieve optimized graphics without loss of quality, please consult an IDG/CUI Representative.

If you need support for 8-bit systems, please consult an IDG/CUI Representative.













## 6.1.2 Standard Office Lighting Palette







The following colors are to be used on interfaces that are viewed in a environment with standard office lighting.













**NOTE:** The colors in this table have not been tested for viewing on monochrome monitors.





Use P7 or P3 for the primary screen color.













**Table 4: Standard Office Lighting Palette**













Standard Office Lighting											
 P1	R-255 G-255 B-255 #FFFFFF	 P2	R-240 G-242 B-247 #F0F2F7	 P3	R-186 G-190 B-204 #BABECC	 P4	R - 154 G - 158 B - 176 #9A9EB0	 P5	R-228 G-231 B-241 #E4E7F1	 P7	R-186 G-193 B-218 #BAC1DA
 P8	R-141 G-152 B-190 #8D98BE	 P9	R-104 G-117 B-163 #6875A3	 P10	R-047 G-061 B-110 #2F3D6E	 P11	R-000 G-000 B-000 #000000	 P12	R-238 G-229 B-186 #EEE5BA	 P13	R-255 G-241 B-171 #FFF1AB
Control	State			Element		Color Name					
General Color Specifications											
The following colors apply to most controls and states. Exceptions are noted with the individual controls.											
Control	State			Element		Color Name					
Focus	N/A			Focus Outline		P13					
Text (labels, field content, etc)	Enabled			N/A		P11					
Text	Selected			N/A		P1					
Text inside a control	Disabled			N/A		P4					
Text outside a control (labels)	Disabled			N/A		P4					
Individual Control Specifications											
Control	State			Element		Color Name					
Button - Command	Unselected			Face		P8					
Button - Command	While being pressed			Face		P9					
Button - Command	Disabled			Face		On P7 = P7 On P3 = P3					
Button - Command	Disabled			Text		P4					
Button - Toggle	Unselected			Face		P8					
Button - Toggle	Unselected			Focus Outline		P12					
Button - Toggle	Unselected			Text		P11					
Button - Toggle	Selected			Face		P12					
Button - Toggle	Selected			Focus Outline		P8					
Button - Toggle	Selected			Text		P11					
Button - Toggle	Disabled			N/A		N/A					
Checkbox	Unselected			Check Box		P5					
Checkbox	Unselected			Check Mark		N/A					
Checkbox	Selected			Check Box		P5					
Checkbox	Selected			Check Mark		P11					

Standard Office Lighting					
 P1 R-255 G-255 B-255 #FFFFFF	 P2 R-240 G-242 B-247 #F0F2F7	 P3 R-186 G-190 B-204 #BABECC	 P4 R - 154 G - 158 B - 176 #9A9EB0	 P5 R-228 G-231 B-241 #E4E7F1	 P7 R-186 G-193 B-218 #BAC1DA
 P8 R-141 G-152 B-190 #8D98BE	 P9 R-104 G-117 B-163 #6875A3	 P10 R-047 G-061 B-110 #2F3D6E	 P11 R-000 G-000 B-000 #000000	 P12 R-238 G-229 B-186 #EEE5BA	 P13 R-255 G-241 B-171 #FFF1AB
Control	State	Element	Color Name		
Checkbox	Disabled & Unselected	Check Box	On P7 = P7 On P3 = P3		
Checkbox	Disabled & Unselected	Check Mark	N/A		
Checkbox	Disabled & Selected	Check Box	On P7 = P7 On P3 = P3		
Checkbox	Disabled & Selected	Check Mark	P4		
Combo Box	Editable	Arrow	P11		
Combo Box	Editable	Command Button	P8		
Combo Box	Editable	Drop List Field	P2		
Combo Box	Editable	Scroll	see Scroll Bar control		
Combo Box	Editable	Selection Bar	P9		
Combo Box	Editable	Text Field	P5		
Combo Box	Non Editable	Arrow	P11		
Combo Box	Non Editable	Command Button	P8		
Combo Box	Non Editable	Drop List Field	P2		
Combo Box	Non Editable	Scroll	see Scroll Bar control		
Combo Box	Non Editable	Selection Bar	P9		
Combo Box	Non Editable	Text Field	On P7 = P7 On P3 = P3		
Combo Box	Disabled	Arrow	P4		
Combo Box	Disabled	Command Button	On P7 = P7 On P3 = P3		
Combo Box	Disabled	Drop List Field	N/A		
Combo Box	Disabled	Scroll	see Scroll Bar control		
Combo Box	Disabled	Selection Bar	N/A		
Combo Box	Disabled	Text Field	On P7 = P7 On P3 = P3		
Desktop (back most background)	N/A	Desktop	P10		
Dialog Box	N/A	Header	see Window Title Bar control		
Dialog Box	N/A	Dialog Background	P7		
List	N/A	List Box Field	P2		
List	N/A	Alternate Banding	P5		
List	N/A	Selection Bar	P9		
List	N/A	Scroll Bar	see Scroll Bar control		
Menu - Drop Down	N/A	Arrow	P11		
Menu - Drop Down	N/A	Menu Area	P7		

Standard Office Lighting					
 P1 R-255 G-255 B-255 #FFFFFF	 P2 R-240 G-242 B-247 #F0F2F7	 P3 R-186 G-190 B-204 #BABECC	 P4 R - 154 G - 158 B - 176 #9A9EB0	 P5 R-228 G-231 B-241 #E4E7F1	 P7 R-186 G-193 B-218 #BAC1DA
 P8 R-141 G-152 B-190 #8D98BE	 P9 R-104 G-117 B-163 #6875A3	 P10 R-047 G-061 B-110 #2F3D6E	 P11 R-000 G-000 B-000 #000000	 P12 R-238 G-229 B-186 #EEE5BA	 P13 R-255 G-241 B-171 #FFF1AB
Control	State	Element	Color Name		
Menu - Drop Down	N/A	Separator Lines	P9 with P1 drop shadow		
Menu - Drop Down	Selected	Selection Bar	P9		
Menu - Drop Down	Selected	Box behind title	P9		
Menu - Drop Down	Selected	Title Text	P1		
Menu - Drop Down	Unselected	Box behind title	On P7 = P7 On P3 = P3		
Menu - Drop Down	Unselected	Title Text	P11		
Menu - Pop Up	N/A	Arrow	P11		
Menu - Pop Up	N/A	Menu Area	P7		
Menu - Pop Up	N/A	Separator Lines	P9 with P1 drop shadow		
Menu - Pop Up	Selected	Selection Bar	P9		
Menu - Sub	N/A	N/A	see Menu-Drop Down or Menu-Pop Up control		
Panel with Area Border	N/A	Panel Area	N/A		
Panel with Area Border	N/A	Title Text	N/A		
Panel with Linear Border - No Header	N/A	Linear Border	P10		
Panel with Linear Border - No Header	N/A	Panel Area	On P7 = P7 On P3 = P3		
Panel with Linear Border & Header	N/A	Header	P10		
Panel with Linear Border & Header	N/A	Header Text	P7		
Panel with Linear Border & Header	N/A	Linear Border	P10		
Panel with Linear Border & Header	N/A	Panel Area	On P7 = P7 On P3 = P3		
Progress Bar	Enabled	Progress indicator	P9		
Progress Bar	Enabled	Track Field	On P7 = P7 On P3 = P3		
Radio Button	Unselected	Circle Field	P5		
Radio Button	Unselected	Dot	N/A		
Radio Button	Selected	Circle Field	P5		
Radio Button	Selected	Dot	P11		
Radio Button	Disabled & Unselected	Circle Field	On P7 = P7 On P3 = P3		
Radio Button	Disabled & Unselected	Dot	N/A		

Standard Office Lighting					
P1  R-255 G-255 B-255 #FFFFFF	P2  R-240 G-242 B-247 #F0F2F7	P3  R-186 G-190 B-204 #BABECC	P4  R - 154 G - 158 B - 176 #9A9EB0	P5  R-228 G-231 B-241 #E4E7F1	P7  R-186 G-193 B-218 #BAC1DA
P8  R-141 G-152 B-190 #8D98BE	P9  R-104 G-117 B-163 #6875A3	P10  R-047 G-061 B-110 #2F3D6E	P11  R-000 G-000 B-000 #000000	P12  R-238 G-229 B-186 #EEE5BA	P13  R-255 G-241 B-171 #FFF1AB
Control	State	Element	Color Name		
Radio Button	Disabled & Selected	Circle Field	On P7 = P7 On P3 = P3		
Radio Button	Disabled & Selected	Dot	P4		
Scroll Bar	Enabled	Arrows	P11		
Scroll Bar	Enabled	Command Button	P8		
Scroll Bar	Enabled	Slider	P8		
Scroll Bar	Enabled	Track field	On P7 = P7 On P3 = P3		
Scroll Bar	Disabled	Arrows	P4		
Scroll Bar	Disabled	Command Button	On P7 = P7 On P3 = P3		
Scroll Bar	Disabled	Slider	On P7 = P7 On P3 = P3		
Scroll Bar	Disabled	Track field	On P7 = P7 On P3 = P3		
Scroll Pane	N/A	N/A	see Scroll Bar control & content control		
Slider	Enabled	Pointer Arrow	P11		
Slider	Enabled	Pointer Button	P8		
Slider	Enabled	Tick marks	P11		
Slider	Enabled	Track field	On P7 = P7 On P3 = P3		
Slider	Disabled	Pointer Arrow	P4		
Slider	Disabled	Pointer Button	On P7 = P7 On P3 = P3		
Slider	Disabled	Tick marks	P4		
Slider	Disabled	Track field	On P7 = P7 On P3 = P3		
Slider Dual	N/A	N/A	see Slider control		
Spin Box	N/A	N/A	See Combo Box control		
Table	N/A	Table Area	P2		
Table	N/A	Alternate Banding	P5		
Table	N/A	Arrows	P9		
Table	N/A	Column Header - Non-Sortable	On P7 = P7 On P3 = P3		
Table	N/A	Column Header - Sortable	P8		
Table	N/A	Editable Cell	P2		
Table	N/A	Scroll Bar	see Scroll Bar control		

Standard Office Lighting					
P1  R-255 G-255 B-255 #FFFFFF	P2  R-240 G-242 B-247 #F0F2F7	P3  R-186 G-190 B-204 #BABECC	P4  R - 154 G - 158 B - 176 #9A9EB0	P5  R-228 G-231 B-241 #E4E7F1	P7  R-186 G-193 B-218 #BAC1DA
P8  R-141 G-152 B-190 #8D98BE	P9  R-104 G-117 B-163 #6875A3	P10  R-047 G-061 B-110 #2F3D6E	P11  R-000 G-000 B-000 #000000	P12  R-238 G-229 B-186 #EEE5BA	P13  R-255 G-241 B-171 #FFF1AB
Control	State	Element	Color Name		
Table	N/A	Selected Row ( table not capable of secondary selection)	P12		
Table	N/A	Primary Selected Row (table capable of secondary selection)	P12		
Table	N/A	Text in a selected row (when the row is P12 – yellow)	P11		
Table	N/A	Secondary Selected Row (assumes primary row selection)	P9		
Table	N/A	Text in a selected row (when the row is P9 – dark blue)	P1		
Tabs	Selected	Tab	P7		
Tabs	Unselected	Tab	P8		
Tabs	Unselected	Tab Text	P11		
Tabs -Type 1	N/A	Panel Area	P10		
Tabs -Type 2	N/A	Panel Area	P9		
Text Area	Editable	Scroll Bar	see Scroll Bar control		
Text Area	Editable	Text Area	P5		
Text Area	Non Editable	Scroll Bar	see Scroll Bar control		
Text Area	Non Editable	Text Area	On P7 = P7 On P3 = P3		
Text Area	Disabled	Scroll Bar	see Scroll Bar control		
Text Area	Disabled	Text Area	On P7 = P7 On P3 = P3		
Text Field	Editable	Text Field	P5		
Text Field	Non Editable	Text Field	On P7 = P7 On P3 = P3		
Text Field	Disabled	Text Field	On P7 = P7 On P3 = P3		
Tool Palette - Collapsible or Movable	Unselected	Tab	P9		
Tool Palette - Collapsible or Movable	Selected	Tab	P8		
Tool Palette - Collapsible or Movable	Enabled	Button Face	see Command Button control		
Tool Palette - Collapsible or Movable	N/A	Area Behind Tabs	P10		

Standard Office Lighting					
 P1 R-255 G-255 B-255 #FFFFFF	 P2 R-240 G-242 B-247 #F0F2F7	 P3 R-186 G-190 B-204 #BABECC	 P4 R - 154 G - 158 B - 176 #9A9EB0	 P5 R-228 G-231 B-241 #E4E7F1	 P7 R-186 G-193 B-218 #BAC1DA
 P8 R-141 G-152 B-190 #8D98BE	 P9 R-104 G-117 B-163 #6875A3	 P10 R-047 G-061 B-110 #2F3D6E	 P11 R-000 G-000 B-000 #000000	 P12 R-238 G-229 B-186 #EEEE5BA	 P13 R-255 G-241 B-171 #FFF1AB
Control	State	Element	Color Name		
Tool Palette - Collapsible or Movable	N/A	Arrow	P7		
Tool Palette - Collapsible or Movable	N/A	Title Header	P10		
Tool Palette - Collapsible or Movable	N/A	Title Text	P7		
Tool Palette - Collapsible or Movable	Disabled	Button Face	P8		
Tool Palette - Collapsible or Movable	Disabled	Button Text	P3		
Tool Palette - Panel	N/A	Panel	P3		
Tool Palette - Panel	N/A	Sub-header	P10		
Tool Palette - Panel	N/A	Sub-header Separator Lines	P9 with P1 drop shadow		
Toolbar	Selected	Pop-up Button Face	P9		
Toolbar	Selected	Text	P1		
Toolbar	Unselected	Pop-up Button Face	P8		
Toolbar	Unselected	Text	P11		
Toolbar	N/A	Title Header	P10		
Toolbar	N/A	Title Text	P7		
Toolbar	N/A	Toolbar Area	On P7 = P7 On P3 = P3		
Tooltip	N/A	Area	P12		
Tree	N/A	Area	P2		
Tree	N/A	Scroll Bar	see Scroll Bar control		
Tree	N/A	Selection Bar	P9		
Tree	N/A	Separator/ Connector Lines	P11		
Window Title Bar	Active	Bar	P10		
Window Title Bar	Active	Buttons	P8		
Window Title Bar	Active	Title text	P1		
Window Title Bar	Inactive	Bar	P9		
Window Title Bar	Inactive	Buttons	P8		
Window Title Bar	Inactive	Title text	P1		
















## 6.1.3 Low-Lighting Palette

This palette is designed to work in an interface that will be viewed in a dark reading room, either on a color or monochrome monitor. See Table 5 : Low-Lighting Palette (p. 49) to determine how the colors from the palette should be used for this purpose.

Testing has demonstrated that some tasks (such as reading X-Ray images) are easier under low-lighting conditions. In order to not distract the user when viewing images, use P9 for the primary screen color.

**Table 5: Low-Lighting Palette**

Low-Lighting													
P1	R-255 G-255 B-255 #FFFFFF	P2.2	R-200 G-206 B-226 #C8CEE2	P3	R-186 G-190 B-204 #BABECC	P4	R-154 G-158 B-176 #9A9E80	P5	R-228 G-231 B-241 #E4E7F1	P7	R-186 G-193 B-218 #BAC1DA	P8	R-141 G-152 B-190 #8D98BE
P9	R-104 G-117 B-163 #6875A3	P10	R-047 G-061 B-110 #2F3D6E	P10.4	R-016 G-028 B-073 #101C49	P11	R-000 G-000 B-000 #000000	P12	R-238 G-229 B-186 #EEE5BA	P13	R-255 G-241 B-171 #FFF1AB		
Control	State			Element			Color Name						
General Color Specifications													
The following colors apply to most controls and states. Exceptions are noted with the individual controls.													
Control	State			Element			Color Name						
Focus	N/A			Focus Outline			P13						
Text (labels, field content, etc)	Enabled			N/A			On P9 = P11 On P10 or P10.4 = P7						
Text	Selected			N/A			P5						
Text inside a control	Disabled			N/A			P4						
Text outside a control (labels)	Disabled			N/A			P4						
Individual Control Specifications													
Control	State			Element			Color Name						
Button - Command	Unselected			Face			P8						
Button - Command	While being pressed			Face			P10						
Button - Command	Disabled			Face			P9						
Button - Command	Disabled			Text			P4						
Button - Toggle	Unselected			Face			P8						
Button - Toggle	Unselected			Focus Outline			P12						
Button - Toggle	Unselected			Text			P11						
Button - Toggle	Selected			Face			viewed on color monitor = P12 viewed on monochrome monitor = P10						
Button - Toggle	Selected			Focus Outline			P8						
Button - Toggle	Selected			Text			viewed on color monitor = P11 viewed on monochrome monitor = P5						
Button - Toggle	Disabled			N/A			N/A						

Low-Lighting													
P1 	R-255 G-255 B-255 #FFFFFF	P2.2 	R-200 G-206 B-226 #C8CEE2	P3 	R-186 G-190 B-204 #BABECC	P4 	R-154 G-158 B-176 #9A9E80	P5 	R-228 G-231 B-241 #E4E7F1	P7 	R-186 G-193 B-218 #BAC1DA	P8 	R-141 G-152 B-190 #8D98BE
P9 	R-104 G-117 B-163 #6875A3	P10 	R-047 G-061 B-110 #2F3D6E	P10.4 	R-016 G-028 B-073 #101C49	P11 	R-000 G-000 B-000 #000000	P12 	R-238 G-229 B-186 #EEE5BA	P13 	R-255 G-241 B-171 #FFF1AB		

Control	State	Element	Color Name
Checkbox	Unselected	Check Box	P2.2
Checkbox	Unselected	Check Mark	N/A
Checkbox	Selected	Check Box	P2.2
Checkbox	Selected	Check Mark	P11
Checkbox	Disabled & Unselected	Check Box	P9
Checkbox	Disabled & Unselected	Check Mark	N/A
Checkbox	Disabled & Selected	Check Box	P9
Checkbox	Disabled & Selected	Check Mark	P4
Combo Box	Editable	Arrow	P11
Combo Box	Editable	Command Button	P8
Combo Box	Editable	Drop List Field	P2.2
Combo Box	Editable	Scroll	see Scroll Bar control
Combo Box	Editable	Selection Bar	P10
Combo Box	Editable	Text Field	P2.2
Combo Box	Non Editable	Arrow	P11
Combo Box	Non Editable	Command Button	P8
Combo Box	Non Editable	Drop List Field	P2.2
Combo Box	Non Editable	Scroll	see Scroll Bar control
Combo Box	Non Editable	Selection Bar	P10
Combo Box	Non Editable	Text Field	P9
Combo Box	Disabled	Arrow	P4
Combo Box	Disabled	Command Button	P9
Combo Box	Disabled	Drop List Field	N/A
Combo Box	Disabled	Scroll	see Scroll Bar control
Combo Box	Disabled	Selection Bar	N/A
Combo Box	Disabled	Text Field	P9
Desktop (back most background)	N/A	Desktop	P10.4
Dialog Box	N/A	Header	see Window Title Bar control
Dialog Box	N/A	Dialog Background	P9
List	N/A	List Box Field	P2.2
List	N/A	Alternate Banding	P7
List	N/A	Selection Bar	P10
List	N/A	Scroll Bar	see Scroll Bar control

Low-Lighting													
P1	R-255 G-255 B-255 #FFFFFF	P2.2	R-200 G-206 B-226 #C8CEE2	P3	R-186 G-190 B-204 #BABECC	P4	R-154 G-158 B-176 #9A9E80	P5	R-228 G-231 B-241 #E4E7F1	P7	R-186 G-193 B-218 #BAC1DA	P8	R-141 G-152 B-190 #8D98BE
P9	R-104 G-117 B-163 #6875A3	P10	R-047 G-061 B-110 #2F3D6E	P10.4	R-016 G-028 B-073 #101C49	P11	R-000 G-000 B-000 #000000	P12	R-238 G-229 B-186 #EEE5BA	P13	R-255 G-241 B-171 #FFF1AB		

Control	State	Element	Color Name
Menu - Drop Down	N/A	Arrow	P11
Menu - Drop Down	N/A	Menu Area	P9
Menu - Drop Down	N/A	Separator Lines	P10 with P7 drop shadow
Menu - Drop Down	Selected	Selection Bar	P10
Menu - Drop Down	Selected	Box behind title	P10
Menu - Drop Down	Selected	Title Text	P5
Menu - Drop Down	Unselected	Box behind title	P9
Menu - Drop Down	Unselected	Title Text	P11
Menu - Pop Up	N/A	Arrow	P11
Menu - Pop Up	N/A	Menu Area	P7
Menu - Pop Up	N/A	Separator Lines	P10 with P7 drop shadow
Menu - Pop Up	Selected	Selection Bar	P10
Menu - Sub	N/A	N/A	see Menu-Drop Down or Menu-Pop Up control
Panel with Area Border	N/A	Panel Area	P3
Panel with Area Border	N/A	Title Text	P9
Panel with Linear Border - No Header	N/A	Linear Border	P10
Panel with Linear Border - No Header	N/A	Panel Area	P9
Panel with Linear Border & Header	N/A	Header	P10
Panel with Linear Border & Header	N/A	Header text	P7
Panel with Linear Border & Header	N/A	Linear Border	P10
Panel with Linear Border & Header	N/A	Panel Area	P9
Progress Bar	Enabled	Progress indicator	P7
Progress Bar	Enabled	Track Field	P9
Radio Button	Unselected	Circle Field	P2.2
Radio Button	Unselected	Dot	N/A
Radio Button	Selected	Circle Field	P2.2
Radio Button	Selected	Dot	P11
Radio Button	Disabled & Unselected	Circle Field	P9
Radio Button	Disabled & Unselected	Dot	N/A

Low-Lighting													
P1	R-255 G-255 B-255 #FFFFFF	P2.2	R-200 G-206 B-226 #C8CEE2	P3	R-186 G-190 B-204 #BABECC	P4	R-154 G-158 B-176 #9A9E80	P5	R-228 G-231 B-241 #E4E7F1	P7	R-186 G-193 B-218 #BAC1DA	P8	R-141 G-152 B-190 #8D98BE
P9	R-104 G-117 B-163 #6875A3	P10	R-047 G-061 B-110 #2F3D6E	P10.4	R-016 G-028 B-073 #101C49	P11	R-000 G-000 B-000 #000000	P12	R-238 G-229 B-186 #EEE5BA	P13	R-255 G-241 B-171 #FFF1AB		














  

Control	State	Element	Color Name
Radio Button	Disabled & Selected	Circle Field	P9
Radio Button	Disabled & Selected	Dot	P4
Scroll Bar	Enabled	Arrows	P11
Scroll Bar	Enabled	Command Button	P8
Scroll Bar	Enabled	Slider	P8
Scroll Bar	Enabled	Track field	P9
Scroll Bar	Disabled	Arrows	P4
Scroll Bar	Disabled	Command Button	P9
Scroll Bar	Disabled	Slider	P9
Scroll Bar	Disabled	Track field	P9
Scroll Pane	N/A	N/A	see Scroll Bar control & content control
Slider	Enabled	Pointer Arrow	P11
Slider	Enabled	Pointer Button	P8
Slider	Enabled	Tick marks	P11
Slider	Enabled	Track field	P9
Slider	Disabled	Pointer Arrow	P4
Slider	Disabled	Pointer Button	P9
Slider	Disabled	Tick marks	P4
Slider	Disabled	Track field	P9
Slider Dual	N/A	N/A	see Slider control
Spin Box	N/A	N/A	See Combo Box control
Table	N/A	Table Area	P2.2
Table	N/A	Alternate Banding	P7
Table	N/A	Arrows	P9
Table	N/A	Column Header - Non-Sortable	P9
Table	N/A	Column Header - Sortable	P8
Table	N/A	Editable Cell	P2.2
Table	N/A	Scroll Bar	see Scroll Bar control
Table	N/A	Selected Row ( table not capable of secondary selection)	P12
Table	N/A	Primary Selected Row (table capable of secondary selection)	P12

Low-Lighting													
P1	R-255 G-255 B-255 #FFFFFF	P2.2	R-200 G-206 B-226 #C8CEE2	P3	R-186 G-190 B-204 #BABECC	P4	R-154 G-158 B-176 #9A9E80	P5	R-228 G-231 B-241 #E4E7F1	P7	R-186 G-193 B-218 #BAC1DA	P8	R-141 G-152 B-190 #8D98BE
P9	R-104 G-117 B-163 #6875A3	P10	R-047 G-061 B-110 #2F3D6E	P10.4	R-016 G-028 B-073 #101C49	P11	R-000 G-000 B-000 #000000	P12	R-238 G-229 B-186 #EEE5BA	P13	R-255 G-241 B-171 #FFF1AB		

Control	State	Element	Color Name
Table	N/A	Text in a selected row (when the row is P12 - yellow)	P11
Table	N/A	Secondary Selected Row (assumes primary row selection)	P9
Table	N/A	Text in a selected row (when the row is P9 - dark blue)	P5
Tabs	Selected	Tab	P9
Tabs	Unselected	Tab	P10
Tabs	Unselected	Tab Text	P7
Tabs -Type 1	N/A	Panel Area	P10.4
Tabs -Type 2	N/A	Panel Area	P10.4
Text Area	Editable	Scroll Bar	see Scroll Bar control
Text Area	Editable	Text Area	P2.2
Text Area	Non Editable	Scroll Bar	see Scroll Bar control
Text Area	Non Editable	Text Area	P9
Text Area	Disabled	Scroll Bar	see Scroll Bar control
Text Area	Disabled	Text Area	P9
Text Field	Editable	Text Field	P2.2
Text Field	Non Editable	Text Field	P9
Text Field	Disabled	Text Field	P9
Tool Palette - Collapsible or Movable	Unselected	Tab	P9
Tool Palette - Collapsible or Movable	Selected	Tab	P8
Tool Palette - Collapsible or Movable	Enabled	Button Face	see Command Button control
Tool Palette - Collapsible or Movable	N/A	Area Behind Tabs	P10
Tool Palette - Collapsible or Movable	N/A	Arrow	P7
Tool Palette - Collapsible or Movable	N/A	Title Header	P10
Tool Palette - Collapsible or Movable	N/A	Title Text	P7
Tool Palette - Collapsible or Movable	Disabled	Button Face	P8

Low-Lighting													
P1 	R-255 G-255 B-255 #FFFFFF	P2.2 	R-200 G-206 B-226 #C8CEE2	P3 	R-186 G-190 B-204 #BABECC	P4 	R-154 G-158 B-176 #9A9E80	P5 	R-228 G-231 B-241 #E4E7F1	P7 	R-186 G-193 B-218 #BAC1DA	P8 	R-141 G-152 B-190 #8D98BE
P9 	R-104 G-117 B-163 #6875A3	P10 	R-047 G-061 B-110 #2F3D6E	P10.4 	R-016 G-028 B-073 #101C49	P11 	R-000 G-000 B-000 #000000	P12 	R-238 G-229 B-186 #EEE5BA	P13 	R-255 G-241 B-171 #FFF1AB		

Control	State	Element	Color Name
Tool Palette - Collapsible or Movable	Disabled	Button Text	P3
Tool Palette - Panel	N/A	Panel	P3
Tool Palette - Panel	N/A	Sub-header	P10
Tool Palette - Panel	N/A	Sub-header Separator Lines	P10 with P7 drop shadow
Toolbar	Selected	Pop-up Button Face	P10
Toolbar	Selected	Text	P7
Toolbar	Unselected	Pop-up Button Face	P8
Toolbar	Unselected	Text	P11
Toolbar	N/A	Title Header	P10
Toolbar	N/A	Title Text	P7
Toolbar	N/A	Toolbar Area	P9
Tooltip	N/A	Area	P12
Tree	N/A	Area	P2.2
Tree	N/A	Scroll Bar	see Scroll Bar control
Tree	N/A	Selection Bar	viewed on color monitor = P12 viewed on monochrome monitor = P10
Tree	N/A	Separator/ Connector Lines	P11
Window Title Bar	Active	Bar	P10
Window Title Bar	Active	Buttons	P8
Window Title Bar	Active	Title Text	P5
Window Title Bar	Inactive	Bar	P9
Window Title Bar	Inactive	Buttons	P8
Window Title Bar	Inactive	Title text	P1

## 6.2 Auxiliary Colors

**Req. 13:** Auxiliary colors shall be used as specified in Table 6.

Use these colors sparingly and for proper emphasis.

The Munsell colors supplied by ANSI/AAMI HE48 cannot be displayed on CRTs because of their high chroma levels. To attain the colors listed below, the Visual Design team adjusted the values to both complement the primary color palette and allow appropriate chroma levels for screen display.

Table 6: CUI Auxiliary Colors





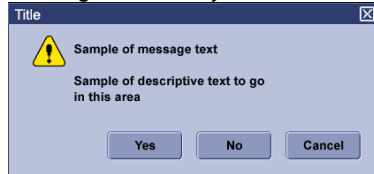
CUI Color	Color Sample	ANSI/AAMI HE48 Usage	RGB & Hex
Red		<p>Red is used for “warning”-level alarms and its use for other conditions should be minimized. By convention, however, red may be used to mean “stop” or “off,” or it may be used to color code a waveform, such as an arterial pressure waveform.</p> <ul style="list-style-type: none"> <li>High priority alarm (warning)</li> <li>Emergency</li> <li>Stop</li> <li>Off</li> <li>Coded to physiologic variables (e.g., arterial pressure)</li> <li>Coded to other standards (e.g., red for halothane)</li> </ul>	R – 237 G – 028 B – 039 ED1C27
Yellow		<p>Yellow is used for “caution”-level alarms and for “advisory” messages and its use for other conditions should be minimized. By convention, however, yellow may be used to color code a waveform, such as a pulmonary artery waveform.</p> <ul style="list-style-type: none"> <li>Medium priority alarm (flashing)</li> <li>Low priority alarm (constant)</li> <li>Potential Hazard</li> <li>Coded to physiologic variables (e.g., pulmonary artery pressure)</li> <li>Coded to other standards (e.g., yellow for compressed air in U.S.)</li> </ul>	R – 255 G – 229 B – 006 FFE506
Green		<ul style="list-style-type: none"> <li>Start</li> <li>On</li> <li>Normal or ready</li> <li>Coded to physiologic variables</li> <li>Coded to other standards (e.g., green for oxygen in U.S.)</li> </ul>	R – 000 G – 171 B – 089 00AB59
Orange		Advisory	R – 255 G – 141 B – 000 FF8D00

Figure 28: Examples of Auxiliary colors in use

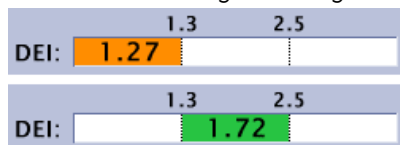
Message box with yellow caution icon



Ancillary system status with red failed state and green active state



Indicator with orange showing value out of range and green showing value in range





## 6.3 Applying CUI Colors

The following screens show how the CUI colors should be applied.

If there are any questions about where or how to apply a particular color, please contact an IDG/CUI Representative.

### 6.3.1 Example of Standard Office Lighting Usage

Figure 29: Example of Standard Office Lighting environment colors applied

The screenshot shows a medical software interface with several sections. Callouts P1 through P13 indicate the application of specific colors to various UI elements:

- P1:** Patient ID field (123-45-6789)
- P2:** Patient Phone # field ((111) 567-1234)
- P3:** Patient Phone # field ((111) 567-1234)
- P4:** GA by LMP field (9.2 weeks)
- P5:** First Name field (Lillian)
- P6:** Age field (36)
- P7:** Sex field (Female)
- P8:** Clear button
- P9:** Hide button
- P10:** Exit button
- P11:** Exam View tab
- P12:** Search String field (Johnson)
- P13:** Review button

The interface also includes a sidebar with buttons like 'Patient', 'Data Transfer', 'Image History', 'Active Images', 'Worklist', 'New Patient', 'Register', and 'Details'. The main area contains patient information, exam details, and a table of patient records.

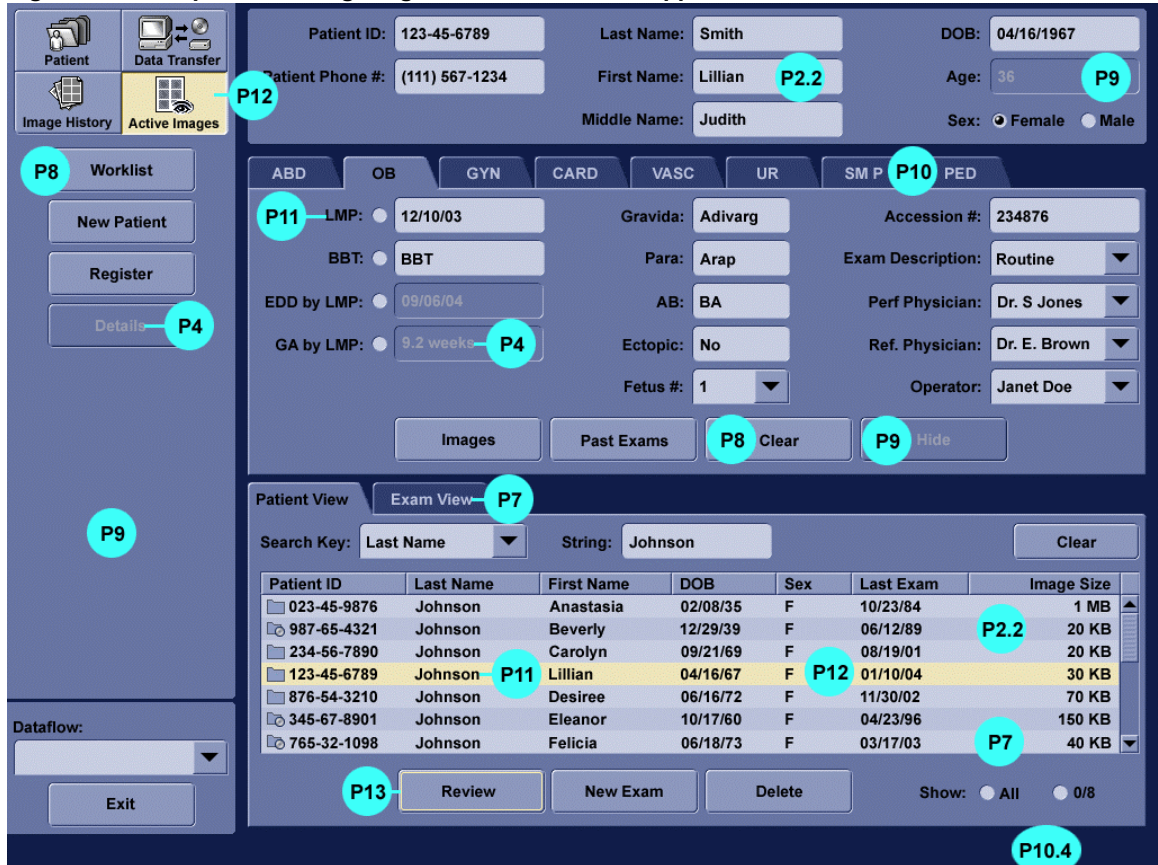
Patient ID	Last Name	First Name	DOB	Sex	Last Exam	Image Size
023-45-9876	Johnson	Anastasia	02/08/35	F	10/23/84	1 MB
987-65-4321	Johnson	Beverly	12/29/39	F	06/12/89	20 KB
234-56-7890	Johnson	Carolyn	09/21/69	F	08/19/01	20 KB
123-45-6789	Johnson	Lillian	04/16/67	F	01/10/04	30 KB
876-54-3210	Johnson	Desiree	06/16/72	F	11/30/02	70 KB
345-67-8901	Johnson	Eleanor	10/17/60	F	04/23/96	150 KB
765-32-1098	Johnson	Felicia	06/18/73	F	03/17/03	40 KB



## 6.3.2 Example of Low-Lighting Usage

The following example shows a typical implementation of the Low-Lighting color palette.

Figure 30: Example of Low-Lighting environment colors applied



## 7 CUI Controls

### 7.1 Overview

The design of the controls is based on applications and products that are typically displayed on 72 pixels per inch (ppi) type monitors with screen resolution of approximately 1024 pixels (1280x1024, 1024x768), using a 24-bit color depth, and using a mouse interface. Touch interface considerations have been included. Further considerations need to be made for systems significantly different from this configuration. For example, high-resolution monitors will require enlarging some of the elements. Work with an IDG/CUI Representative to assist in the modifications.

The CUI style is based on accepted industry design standards. CUI standards should take precedence on design (as stated in Req. 4089), regulatory standards (e.g. , IEC) take precedence on safety on regulatory standards as stated in section 2 General Assumptions and Requirements (p. 15).

#### 7.1.1 Toolkit and Example Notes

The examples of the controls in this section were created with the Java PTK Toolkit.

The toolkit provides a default appearance for the controls; however, the design of the interface is not limited to these defaults. The defaults can be customized to meet the needs of the program. Contact an IDG/CUI Representative for design related issues or toolkit implementation.

Keep in mind that the graphics shown in this section are only representative examples of a given control. This document cannot anticipate or specify every possible variation. Contact an IDG/CUI Representative to help determine what is an acceptable variation of a control.

#### 7.1.2 General Control Recommendations

The following recommendations apply to most CUI controls, unless otherwise stated:

- Focus outline: 1.1mm (3 pixels) in from outer edge of control.
- Corners: rounded, 1.4mm (4 pixel) radius.
- Capitalization: Apply CUI capitalization to all text (see 8.3 Capitalization, p. 129).
- Control width: The width of controls like buttons and combo boxes is determined by content, but should remain consistent within the application, or at least within a grouping. A general design rule is to find the widest example of a single control and set that width as the size for all controls of that type.
- Specifications for touch screen controls are provided in section 7.18 Touch Screen Controls (p. 113).

**Req. 66: Margins within the CUI controls shall be consistently sized.**

All controls should have a consistent amount of space between the label and the control.

If text resides inside a control, there should be consistent space between the left edge of the control and the leading edge of the text. (For languages that read right to left, the spacing is from the right edge of the control.)

Recommend 2.1mm (6 pixels) between edges of controls, icons, and text

**Figure 31: Examples of indents**

*space between circle field/checkbox and text*



*space between edge of field and text*



*space between edge of menu and icon, space between icon and text*



*space between text and focus line*



*space between label and field*



## 7.1.3 Product Screen Examples

Examples of products that have implemented the CUI style are available from the Support Central - Global Design-Common User Interface (CUI) website:  
[http://supportcentral.ge.com/products/sup\\_products.asp?prod\\_id=15917](http://supportcentral.ge.com/products/sup_products.asp?prod_id=15917)

## 7.2 Command Button

A command button causes the application to perform some command or action when the user clicks it. A command button is usually rectangular and includes a label (text, icon, or both).

### 7.2.1 Description and Behavior

The selected state of a command button is the visual indication that is displayed while the button is being depressed (clicked). The button returns to the deselected state upon completion of the command or action.

Whenever possible, label the command button with the action that it performs. Button names such as Save, Quit, or Erase Disk allow experienced users to select the correct button without reading the text of a familiar dialog. These labels are often more clear than words like OK or Yes.

### 7.2.1.1 Alternate Buttons

#### *Configurable Button*

A configurable button allows the user to modify the action of a button through a list of options.

When the user clicks on the indicator arrow, the list of options appears. Upon selection on an option, the main portion updates to reflect the selection and the button performs the selected action.

When the user clicks on the main portion of the button, the shown action is performed.

Tool Palettes and Toolbars may utilize this button behavior. See sections 7.15 Tool Palettes (p. 98) and 7.16 Toolbars (p. 107).

**Figure 32: Configurable button**



#### *Two State Command Button*

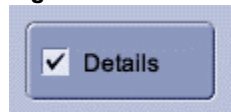
A two state command button is a button that initiates one of two actions, (e.g., on/off, show/hide). The checkbox indicator displays which of the two commands is currently being executed by the system. To change the state, the user selects/presses the button again. The checkbox indicator changes to reflect the new selection.

The button face does not change when the checkbox is selected. The button face will only change color momentarily while actively being pressed/clicked.

Align with other buttons.

Contact an IDG/CUI Representative for assistance in implementing this control.

**Figure 33: Two state command button**



## 7.2.2 Appearance

**Req. 64:** When button edges abut (touch), the tangent corners shall be square.

Buttons that touch each other are squared off on the corners. This allows for a cleaner look.

Buttons that are grouped or related in function—excluding Tool Palettes—may have rounded outer corners.

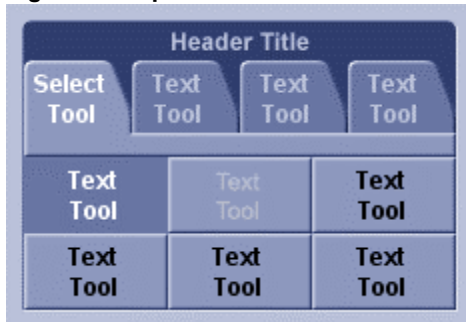
**Figure 34: Touching buttons with rounded outer corners**



**Req. 14585:** Buttons within a Tool Palette shall have four square corners.

Tool Palettes use rectangular buttons with all four corners square. See section 7.15 Tool Palettes (p. 98) for more information about Tool Palettes.

**Figure 35: Squared buttons in a Tool Palette**



~~Req. 12372: Command button label text shall always be completely displayed. (This requirement is removed from V6 because it has been made into a recommendation.)~~

Command button label text should be completely displayed when possible. Buttons should be wide enough to accommodate the text label or the text label should wrap as appropriate.

### 7.2.2.1 Button Size and Spacing

Program teams should consider conforming to one button height to be used throughout the interface. This helps make the program consistent and aids in alignment.

Recommend button sizes are 7.06mm, 11.28mm, or 14.12mm (approximately 20, 32 or 40 pixels) in height. The width varies depending on the length of text or content.

**Figure 36: Button height**

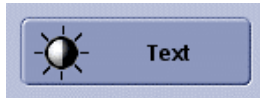


### 7.2.2.2 Text and Icon on a Button

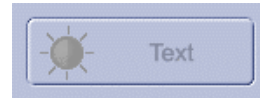
The icon is indented from the left edge. The text is centered in remaining space to the right. See section 9 Icons (p. 132).

**Figure 37: Text and icons on buttons**

*Text and icon on an enabled button*



*Text and icon on a disabled button*



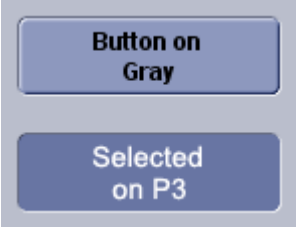
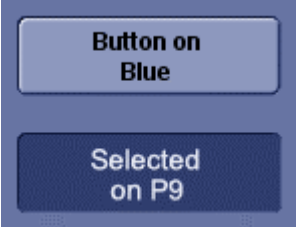

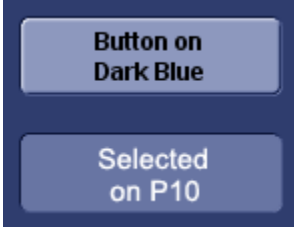
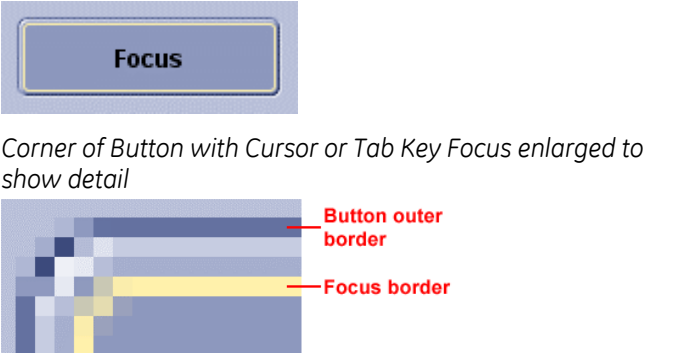
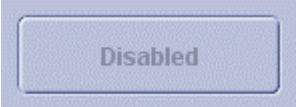
### 7.2.2.3 Tooltip

Tooltips use platform convention for placement.

**Figure 38: Button with tooltip**



Table 7: Command Button appearance

<p><b>Command Buttons</b></p> <p>Selected text does not change position.</p> <p><b>NOTE:</b> The selected state only appears while the button is actively being pressed. The button reverts to the unselected state as soon as the mouse button is released (or pressure is removed for touch screens).</p> <p>Command Buttons apply the same CUI standards on P3, P7, and P10 areas.</p>	<p>P3</p>  <p>P9</p> 	<p>P7</p>  <p>P10</p> 
<p><b>Button with Cursor or Tab Key Focus</b></p> <p>This is the treatment for all 'Focus' elements.</p>	 <p>Corner of Button with Cursor or Tab Key Focus enlarged to show detail</p> <p>Button outer border</p> <p>Focus border</p>	
<p><b>Button Disabled</b></p>		

## 7.3 Toggle Buttons

### 7.3.1 Description

A toggle button has two states - on and off. Toggle buttons are mutually exclusive, that is, selecting one button de-selects the previously selected button. Toggle buttons are never disabled.

Toggle buttons display a graphic or text (or both) to identify the button. The selected state is used to indicate the "on" setting of the button. The deselected state indicates the "off" state. The icon or button text should remain the same whether the button is in the on or off state.



**Req. 8875: High Level access that uses buttons shall use toggle buttons.**



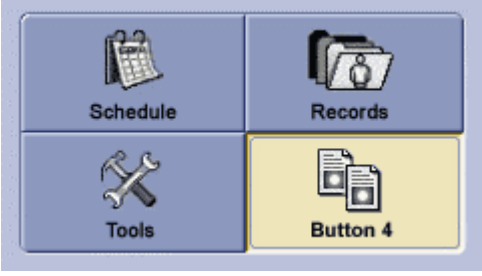
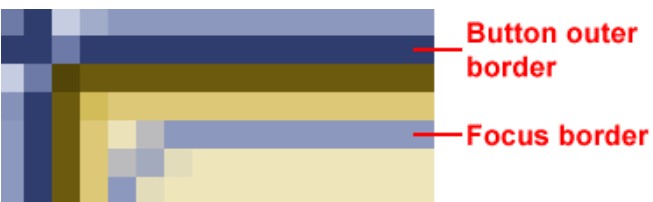
See section 3 General Navigation , (p. 18) for more information.

Controls used for High Level Access use P12 yellow for the selected state color. (see Table 4 : Standard Office Lighting Palette, p. 43, and Table 5 : Low-Lighting Palette, p. 49)

### 7.3.1.1 Appearance

It is recommended that P12 be used selectively. Consult an IDG/CUI Representative for assistance.

**Table 8: Toggle button appearance**

<p><b>Toggle Buttons</b></p>	
<p><b>Toggle Button with Cursor or Tab Key Focus</b></p>	<p><i>Unselected with Focus outline</i></p>  <p><i>Selected with Focus outline</i></p>  <p><i>Corner of toggle button with Cursor or Tab Key Focus enlarged to show detail</i></p> 



## 7.4 Radio Button

### 7.4.1 Description

A radio button provides the user with a single choice within a limited set of mutually exclusive choices. That is, the user can choose only one option from a set of options. Only one button can be on at a time. Accordingly, always group option buttons in sets of two or more; never use a single radio button. The preferred layout of a group of buttons is vertically stacked, with radio buttons aligned.

It is recommended that the radio button be configured so that the user is able to select or deselect the button by clicking on the labeling text as well as the circle field.



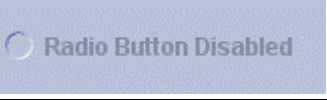
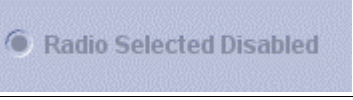

### 7.4.2 Appearance

Text is separated from the circle field and is consistently applied to all radio buttons on the interface.

Text is horizontally centered to the circle field.

Apply CUI Standard for 'Focus' with outline drawn outside element with rounded corners.

Table 9: Radio Button appearance

Radio Button Unselected	 Unselected Radio Button
Radio Button Selected	 Selected Radio Button
Radio Button Disabled and Unselected	 Radio Button Disabled
Radio Button Disabled and Selected	 Radio Selected Disabled
Radio Button with Cursor or Tab Key Focus	 Unselected Radio Button

## 7.5 Checkboxes

### 7.5.1 Description

A checkbox provides the user with the capability to define one of two states for a given option. The states are mutually exclusive and binary in nature: yes/no, on/off, selected/unselected. The setting of an individual checkbox is independent of other checkboxes--that is, more than one checkbox in a set can be checked at any given time. The preferred layout of a group of checkboxes is vertically stacked, with the checkboxes aligned.

A check mark within the checkbox indicates that the setting is selected. The user selects a checkbox to switch its setting from off to on, or on to off. When a checkbox is disabled, the user cannot change its setting.

It is recommended that the checkbox be configured so that the user is able to select or deselect the button by clicking on the labeling text as well as the checkbox.

### 7.5.2 Appearance

Text is separated from the checkbox field and is consistently applied to all checkboxes on the interface.

Text is horizontally centered to the circle field.

Apply CUI Standard for 'Focus' with outline drawn outside element with rounded corners.

Table 10: Checkbox appearance

Checkbox Unselected	<input type="checkbox"/> <b>Checkbox Unselected</b>
Checkbox Selected	<input checked="" type="checkbox"/> <b>Checkbox Selected</b>
Checkbox Unselected and Disabled	<input type="checkbox"/> <b>Checkbox Disabled</b>
Checkbox Selected and Disabled	<input checked="" type="checkbox"/> <b>Checkbox Selected Disabled</b>
Checkbox with Cursor or Tab Key Focus	<input type="checkbox"/> <b>Checkbox Unselected</b>

## 7.6 Text

### 7.6.1 Label (read-only)

#### 7.6.1.1 Description

A label consists of read-only text, graphics or both. Unlike read-only text field controls, the user cannot select the text, so avoid using it for any text the user might want to copy to the Clipboard.

Labels identify components and enable navigation for CUI controls that do not have their own text strings.

A label communicates status and other information.

### 7.6.2 Text Field (single line input)

#### 7.6.2.1 Description

A text field is an area that displays a single line of text. It can be non-editable (read only) or editable.

- In a non-editable field, a user can copy, but not change, the text.
- In an editable text field, a user can type or paste new text or edit the existing text.

Fields which may not be modified but are important for users to read should be non-editable but not disabled. Disabled text is reserved for information or functions that do not apply to the current screen, selection, or situation.

#### 7.6.2.2 Appearance




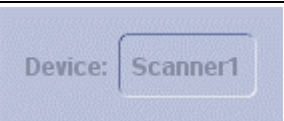
Text field has a beveled-edge inset treatment.

All corners of field are rounded.

Text in text field is offset from the left beveled edge.

Text Label is CUI Standard and consistently used in all labels of controls.

Table 11: Text field appearance

Text Field Editable	 FOV: <input type="text" value="Change Me Text"/>
Text Field Editable with Caret	 FOV: <input type="text"/>
Text Field Non-editable	 FOV: <input type="text" value="Non Editable"/>
Text Field Disabled	 Device: <input type="text" value="Scanner1"/>

## 7.6.3 Text Area (multiple lines)

### 7.6.3.1 Description

A text area is used to display multiple lines of text. Text areas can be scrolled, horizontally and vertically. It is strongly recommended to avoid horizontal scrolling for text areas.

Depending on the platform, text areas can contain formatted text (bold, italic, multiple font sizes, etc.).

A text area can be non-editable (read only) or editable:

- In a non-editable area, a user can copy, but not change, the text.
- In an editable text area, a user can type or paste new text or edit the existing text.

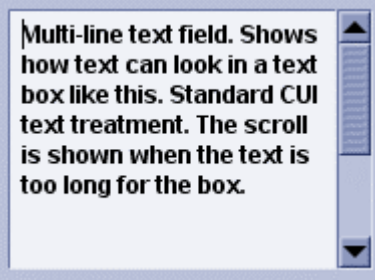
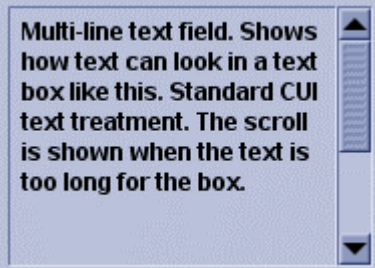
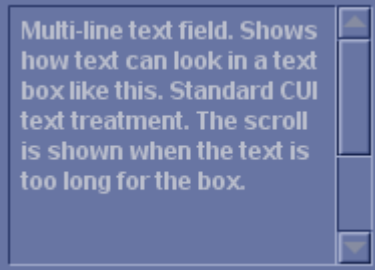
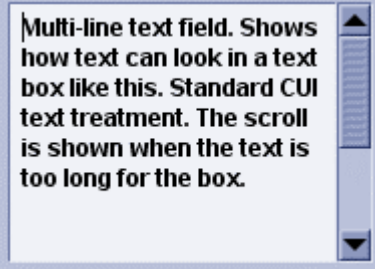
Text areas which may not be modified but are important for users to read should be non-editable but not disabled. Disabled text is reserved for information or functions that do not apply to the current screen, selection, or situation.

### 7.6.3.2 Appearance

Scrollbars, when they appear, are CUI standard.

Text areas that support “Rich Text” have the same appearance and states as Text Area Editable with the exception that the area supports basic font properties like typeface, size, color, bold, and italics.

Table 12: Text Area appearance

<p>Text Area Editable</p>	
<p>Text Area Non-editable</p>	
<p>Text Area Disabled</p>	
<p>Text Area Rich Text</p>	

## 7.6.4 Password Field

### 7.6.4.1 Description

A password field is the same as a text field except it hides the typed in text. This type of control is mostly used for entering passwords. Typed characters are indicated with an asterisk (\*).

### 7.6.4.2 Appearances

Table 13: Password field appearance

Password	
----------	---

## 7.7 Combo Box

### 7.7.1 Standard Combo Box

#### 7.7.1.1 Description

A combo box is a component with a drop-down arrow that the user selects to display a list of options.

- Non-editable combo boxes have a list from which the user can choose one item.
- Editable combo boxes offer a text field as well as a list of options. The user can make a choice by either typing a value in the text field or by choosing an item from the list. When an editable combo box receives the focus, any existing text in the field is selected (highlighted). This allows the user to replace the text by typing directly into the field. The first key stroke should clear existing text rather than writing over each character individually.

#### 7.7.1.2 Appearance

Combo Box text field has the same attributes as a Text Field.

A square Command Button (top right corner is rounded), with an arrow centered in it, triggers the list to drop down.

The text string in the text field is separated from left edge, and consistently applied to all combo boxes on the interface.





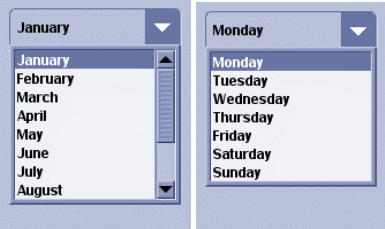


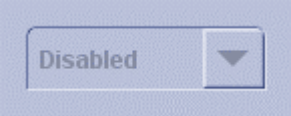
List is CUI standard for all states. A CUI standard scroll is used on the drop-down list if needed.

The focus for a combo box is located on the command button and the CUI standard is applied.

Icons may be used within a Combo Box. Use tooltips for icons that are not labeled.

Disabled Combo Box appears the same for both editable and non-editable Combo Boxes. Disabled Combo Box uses the CUI standard for Disabled Text Field and Disabled Command Button.

**Table 14: Combo box appearance**

Editable Combo Box	
Combo Box Editable, closed	
Combo Box Editable, open, with or without scroll	
Combo Box Editable with Caret or Tab Key Focus	
Non-Editable Combo Box	
Combo Box Non-Editable, closed	
Combo Box Non-Editable, open, with and without scroll	
Combo Box Non-Editable, with Cursor or Tab Key Focus	
Combo Box using an icon only	
Disabled Combo Box	
Combo Box Disabled	

## 7.7.2 Combo Box with List Editing

### 7.7.2.1 Description

A Combo Box with List Editing looks the same as a non-editable combo box. An editable combo box adds an “Edit List...” option that allows users to modify the list.

The name of the “Edit List...” option may be changed if there is a conflict with existing functionality.

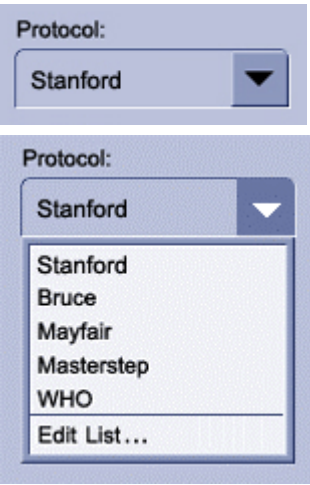
### 7.7.2.2 Behavior

If the user selects the “Edit List...” option, a dialog box appears to allow editing of the drop-down contents. The content of the dialog interaction is application-specific.

### 7.7.2.3 Appearance

Combo box and list are CUI standard.

Table 15: Combo box with list editing appearance

Combo Box with List Editing	

## 7.7.3 Text Field with Recent Value List

### 7.7.3.1 Description

A Text Field with Recent Value List looks the same as an editable combo box with the exception that the field is empty and that the user is able to configure the list by typing free text into the field.




### 7.7.3.2 Behavior

An editable text field is used for this control. A user can configure the drop-down selection by typing text in the field. The input is then added to the top of list of items in the dropdown list. The number of items in the list is determined by the product. If the list is limited in size, when more items are added, the new item appears at the top of the list and the bottom item is removed.

### 7.7.3.3 Appearance

Combo box and list are CUI standard.

Table 16: Text field with recent value list appearance

Text Field with Recent Value List	
-----------------------------------	---

## 7.8 Spin Box

### 7.8.1 Description

A Spin box is a combination of a text field and a special control that incorporates a pair of buttons (known as up and down controls). The text field accepts a limited set of discrete ordered input values that make up a circular loop.

### 7.8.2 Behavior

A user can either enter a value directly into the text field or use the up and down controls to choose a pre-defined value. The incremental unit of change is program-defined. The text field may be either editable to allow direct entry of values or non-editable which only allows the user to cycle through the pre-defined set of values.

Define the down button to decrease the value by one unit and define the up button to increase by one unit.

There should be a static label identifying the spin box. Refer to section 14.3 Labels and Text Fields (p. 150) for specifications on label placement.

To add attributes to the spin box, the appropriate existing controls ( e.g., buttons, labels, etc.) should be used.

The text field is sized to accommodate the largest string or value allowed for the control.

The text within the text field is aligned depending on the data.

- Numeric data is right-aligned.
- Text is left-aligned.

### 7.8.3 Appearance

See CUI standard Combo Boxes.

The width of the text field may be adjusted to fit the content or to align with other controls in a group.

CUI offers several styles of spin boxes. It is recommended to use only one style of spin box consistently within the application.

Table 17: Spin box appearance

<p>Spin Box Editable</p>	
<p>Spin Box Non Editable</p>	
<p>Spin Box Disabled</p>	

## 7.9 Range Controls

### 7.9.1 Scroll Bar

#### 7.9.1.1 Description

Scroll bars are horizontal or vertical scrolling controls that can be used to create scrollable areas other than on the window frame or list box where they are automatically included.



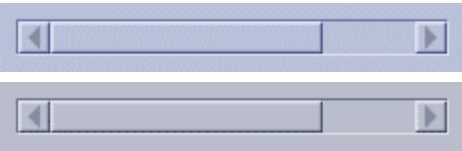
Scroll bars are designed for scrolling through information: using a scroll bar to set values may confuse the user about the purpose or interaction of the control. For contexts where you want to provide an interface for setting or adjusting values, use a slider or other control.

The size of the slider is proportional, depending on the amount of data in the scrollable area. This is normally controlled by the operating system.

#### 7.9.1.2 Appearance

Buttons are CUI standard for Command Buttons.

Table 18: Scroll bar appearance

Scroll Horizontal	
Scroll Vertical	
Scroll Horizontal Disabled	

## 7.9.2 Slider

### 7.9.2.1 Description

A slider is a control that is used to select a value from a continuous range. The position of the indicator reflects the current value. Major tick marks indicate large divisions along the range of values (for instance, every ten units); minor tick marks indicate smaller divisions (for instance, every five units). Tick marks are optional.

Use a slider for setting or adjusting values on a continuous range, such as volume or brightness.

### 7.9.2.2 Appearance

Table 19: Slider appearance

Slider Horizontal	
Slider Vertical	
Slider Disabled	

## 7.9.3 Dual Slider

### 7.9.3.1 Description

A dual slider is a control similar to the normal slider except that it has two controls to specify a range.

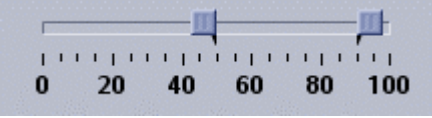
### 7.9.3.2 Behavior

To add attributes to the dual slider, the appropriate existing controls (e.g., buttons, labels, etc.) should be used.

### 7.9.3.3 Appearances

Same color specifications as Slider.

Table 20: Dual slider appearance

Dual Slider	
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## 7.9.4 Progress Bar and Capacity Indicator

### 7.9.4.1 Description

A progress bar is an interface element that indicates one or more operations are in progress and shows users what percentage or amount of the operation has been completed. The progress bar consists of a rectangular bar that fills from left to right or bottom to top as the operation progresses.

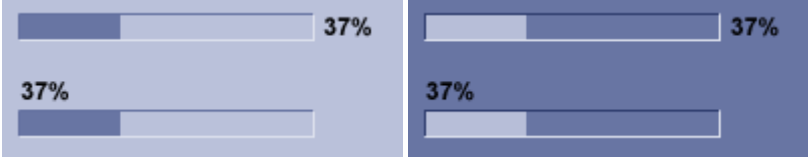
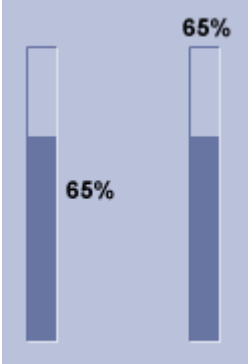
When placed vertically, the control becomes a indicator of capacity. Capacity is shown by “filling” the bar from the bottom and moving upward.

### 7.9.4.2 Appearance

If the percentage/amount of completion or capacity is available, then the amount should be displayed near or on the bar.

If the platform allows, it is recommended to display the percentage/amount completed or capacity outside of the progress bar.

Table 21: Progress bar and capacity indicator appearance

Horizontal Progress Bar	
Capacity Indicator	

## 7.10 Menus

There are three kinds of menus: drop-down menus, submenus and pop-up menus:

- A drop-down menu is selected or opened from a menu bar. The menu title appears in the menu bar.
- A pop-up menu (context menu, shortcut menu) displays lists of commands, settings, or attributes that apply to the selected item or items under the pointer.
- A submenu appears adjacent to a menu item in a drop-down or pop-up menu; its presence is indicated by an arrow next to the item.

The visual cue for a submenu is an arrow displayed adjacent to the label of its parent menu item.

### 7.10.1 Drop-down Menu

#### 7.10.1.1 Description

A drop-down menu is a menu whose title appears in the menu bar. Selecting the menu title drops down a menu. Selecting an item from the menu does not change the menu title.

Separators (line graphics) should be used to divide menu items into logical groupings.

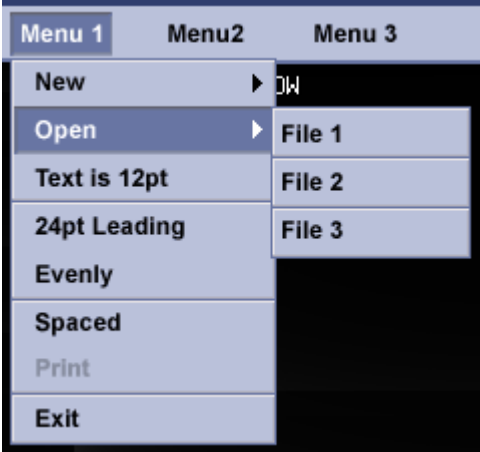
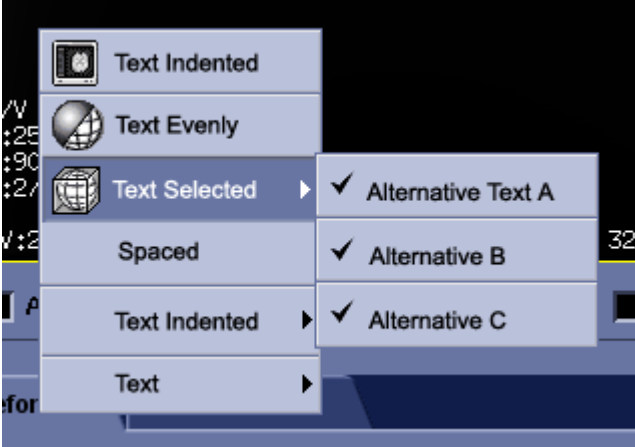
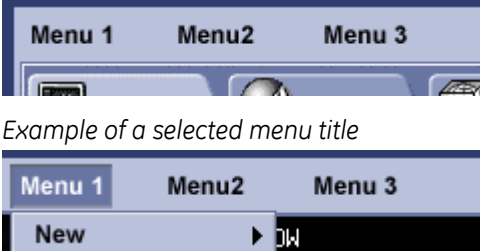
See section 3 General Navigation (p. 18) to understand how menus can be used for navigation.

### 7.10.1.2 Appearance

There is a consistent amount of space between the edges of the menu and icons or text.

The text is evenly spaced (vertical space between lines of text).

Table 22: Menu appearance

<p>Drop-down Menu from a Menu Bar</p>	
<p>Drop-Down and Pop-up Menus with Icons</p> <p>Icons are indented from the left border of the menu a consistent amount. Checkmarks and other smaller graphics may be used. If one or more menu items do not use an icon, the text remains aligned with the other menu text items.</p>	
<p>Menu Titles in Menu Bar</p>	 <p><i>Example of a selected menu title</i></p>

## 7.10.2 Pop-up Menu

### 7.10.2.1 Description

A pop-up menu is a menu that appears at the location of a user-initiated action, such as a right mouse click. A pop-up menu looks the same as a drop-down menu, including the display of icons, mnemonics, keyboard shortcuts, and submenus.

Pop-up menus do not have menu titles.

**Req. 8876: Pop-up menus initiated from a right mouse-click shall not be the primary method for selecting an action or initiating a function.**

Pop-up menus offer only menu items that are applicable or relevant to the object or region at the location of the pointer and provide an efficient way for the user to access the operations of objects. Because pop-up menus are displayed at the pointer's current location, they eliminate the need for the user to move the pointer to the menu bar or a Toolbar. In addition, because pop-up menus only include commands that are specific to the object or to its immediate context, pop-up menus reduce the number of commands the user must browse through. Pop-up menus also minimize screen clutter because they are displayed only on demand and do not require dedicated screen space.

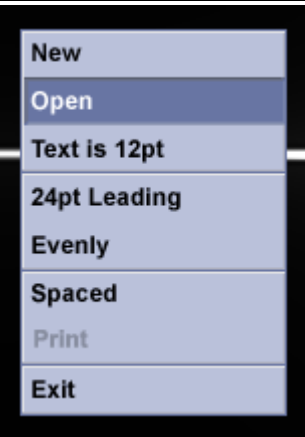
### 7.10.2.2 Appearance

All Pop-up menus use the same color application as Drop-down Menus.

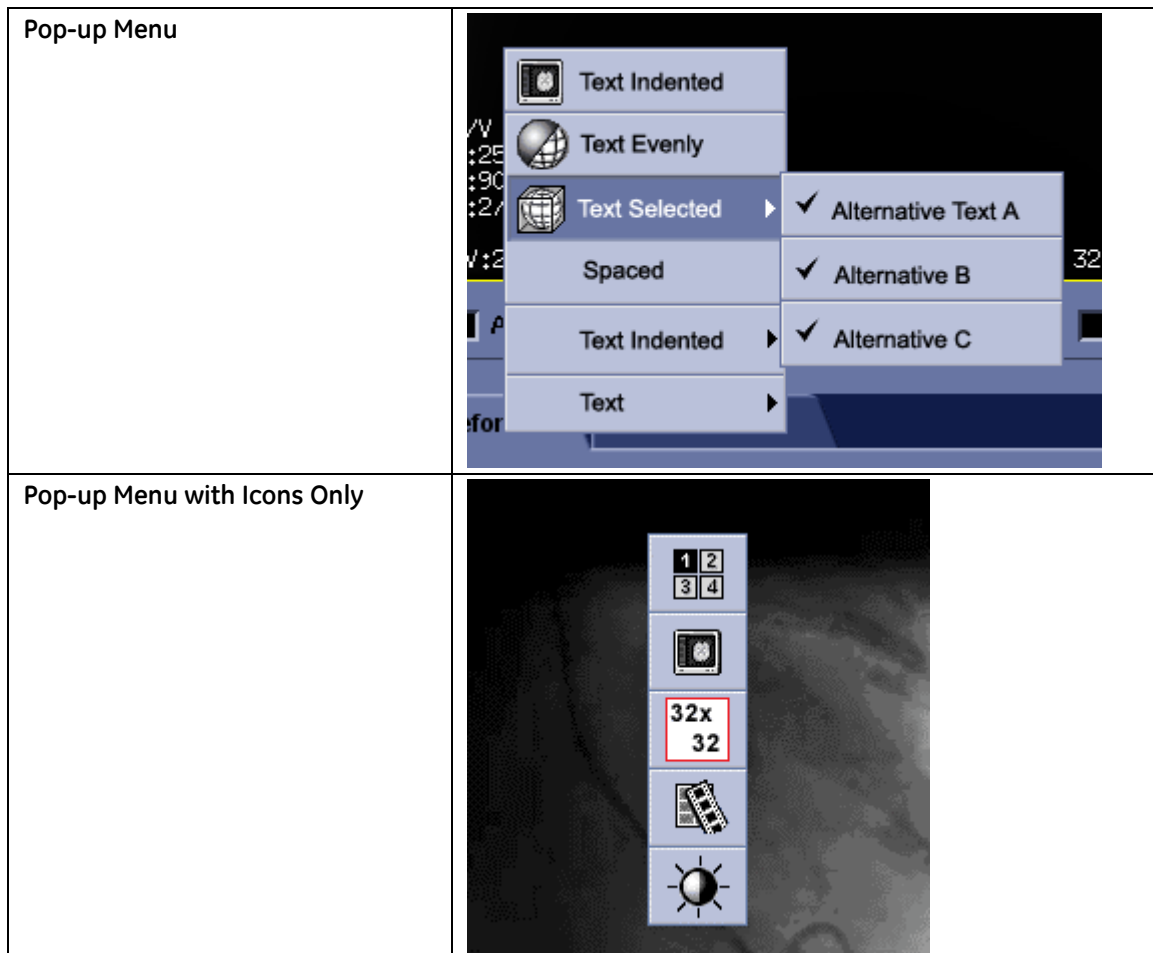
Pop-up menus may require larger icons, therefore may require larger line height. The submenu follows Drop-down menu CUI standard.

Even though all icons need to be labeled or identified (see Requirement 55), it is recommended to use this technique (icons with no labels) sparingly.

**Table 23: Pop-up menu appearance**

Pop-up Menu with Text Only	
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## 7.10.3 Submenu

### 7.10.3.1 Description

A submenu appears adjacent to a menu item in a drop-down menu or pop-up menu. The visual cue for a submenu is an arrow displayed adjacent to the label of its parent menu item.

Use submenus to provide user access to additional choices rather than using more space in the parent menu. A submenu can also display hierarchically related objects.

General recommendations for sub menus:

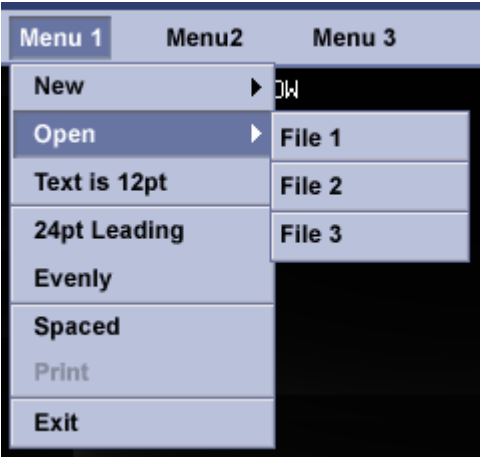
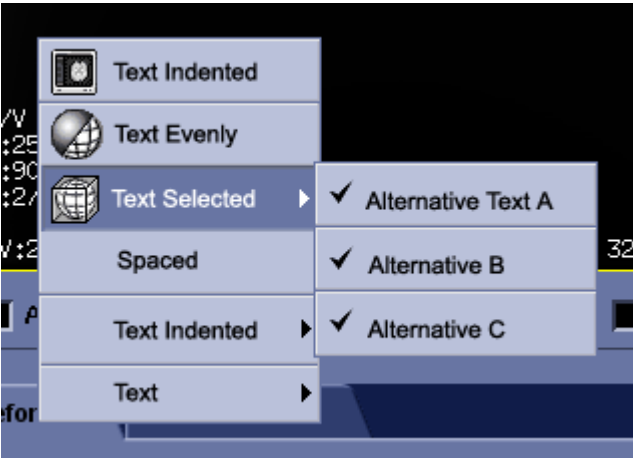
- Place the most important and frequently-used groups of menu items at the highest level.
- Minimize the number of levels for any given menu item. Ideally, limit the design to a single submenu. Submenus add a level of complexity to the menu interface by requiring the user to navigate further through the menu structure to get to a particular choice. The navigation also requires more effort on the part of the user.
- Avoid using submenus for frequent, repetitive commands.

### 7.10.3.2 Appearance

Submenu follows Drop-down Menu CUI standard.

Small arrows to the right of the text on parent menu are used to indicate a submenu. These arrows are indented from the right edge of the menu.

Table 24: Submenu appearance

<p>Submenu from Menu Bar</p>	
<p>Submenu from Pop-up</p>	

## 7.11 Lists, Tables and Trees

### 7.11.1 List

#### 7.11.1.1 Description

A list is a one-column arrangement of items (text, graphics, or both). The purpose of a list box is to display a collection of items and, in most cases, support selection of an item or items in the list. It enables users to set a variable or a property somewhere in the application. Lists can be used as an alternative to combo boxes, radio buttons, and checkboxes.

Lists can allow single item selection or multiple item selection. Lists can be scrolled, horizontally and vertically. It is strongly recommended to avoid horizontal scrolling for lists.

#### 7.11.1.2 Behavior

The selection behavior for lists, tables, and trees follows industry standards for selections:

- Selections of multiple objects are adjusted (that is, added or removed from the selection) by using the keyboard modifiers with the mouse.
- After making an initial selection, pressing the SHIFT key allows the addition or subtraction of new contiguous objects to an existing selection.
- After making an initial selection, pressing the CTRL key allows the addition or subtraction of new non-contiguous objects to an existing selection.

#### 7.11.1.3 Appearance

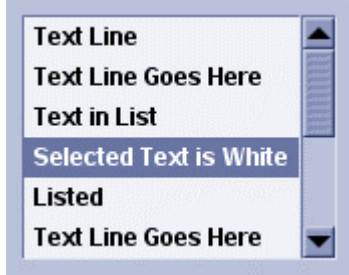
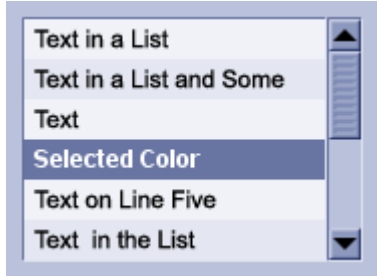
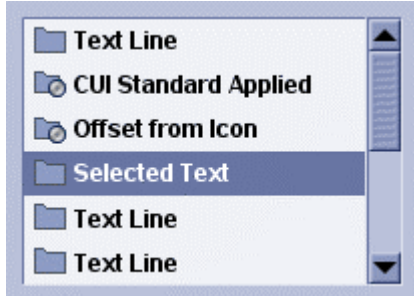

Text attributes are CUI standard.

Banding is recommended for very wide lists or tables. Banding assists the user in reading the information.

The scrollbar only appears when there is more data than can be displayed in the list.

Icons can be used with text in a List Box. Provide a margin between the left edge and icons, and icons and text.

Table 25: List appearance

<p>List with one item selected</p>	
<p>List, with banded items</p>	
<p>List with icons</p>	
<p>List without scroll</p>	

## 7.11.2 Table

### 7.11.2.1 Description

A table is a two-dimensional arrangement of data in rows and columns.

List attributes apply to tables unless otherwise specified.

**Req. 8663:** All non-numerical data shall be left aligned in the columns.

**Req. 8816:** Numbers with decimals are placed on the right side of the column, aligned by the decimal points.

**Req. 8662: Table column heading labels shall be aligned similar to the content of the column.**

The alignment of the column data is determined by the data set displayed. Contents of columns should generally be aligned as follows:

- Alphanumeric: Left Aligned
- Numeric: Right or Decimal

For any other data types, please work with an IDG/CUI representative to determine the most effective alignment.

**Figure 39: Example of data alignment in tables**

Header A	Header B ▲	Header C	Header D	Header E
File Folder	7 KB	33,000	154.50	1,854.50
Adobe Photoshop	30 KB	12,000	265.33	20,650.33
Microsoft Excel	300 KB	2,200,000	200.00	1,200.00
Microsoft Word	500 KB	3,000	10.00	100.00
Microsoft Excel	1,000 KB	24,802	0.25	0.25
File Folder	1,205 KB	45,220	560.50	560.50

## 7.11.2.2 Behavior

This specification defines general behavior for all tables but does not limit other functions that are implemented for specific products.

There are two types of column headers for tables.

- Read-only - displays title to column
- Sortable - Each column header is a button. The user can select on a column header to indicate a primary sort column. An arrow identifies the column that is sorting the data. If there is no arrow, then there is no sorting for the table. If there is a need for some columns to be not sortable, the sorting function should be disabled in the product, but the column header style should remain the same as the sortable columns.

Users can select a cell and edit its contents if the component in that cell supports editing.

Users can press Tab to advance to the next cell and select its contents.

If a table cell is editable, the selected cell's background turns P2 and a caret indicates that the text is now editable.

Tables can use scrolling.

Sortable column headings are adjusted in the following ways:

- Req. 8551:** If repositioning capability has been implemented, columns shall be repositioned by dragging the header left or right; releasing the mouse button places the column in the new location.
- Req. 8552:** If resizing capability has been implemented, columns shall be resized by dragging the border of the column header left or right.
- Req. 14586:** If resizing capability has been implemented, columns shall not be able to be resized to less than one character width. (That is, columns cannot be resized so small that they disappear from view.)
- Req. 14587:** Columns that have been resized to the minimum width shall display a tooltip on mouseover of the column heading to identify the column.

**Figure 40: Column resizing**

*Column expanded*

SPS Description	RIS Protocol
Aortic Dissection	Protocol
Chest Abd Pelvis	Protocol
Chest Abd Pelvis	Protocol

*Column resized*

S...	RIS Protocol	Local Protocol
A...	SPS Description	Protocol
C...	Protocol	Protocol
C...	Protocol	Protocol

- Req. 8553:** If sorting capability has been implemented, columns shall be sorted by clicking the column header.

When sorting right-aligned data, the sort arrow moves the column label text to the left. The sort arrow appears 2.1mm (~6 pixels) from the right edge of the column header and the column label text appears 2.1mm to the left of the sort arrow.

### 7.11.2.3 Appearance

List attributes apply to tables unless otherwise specified.

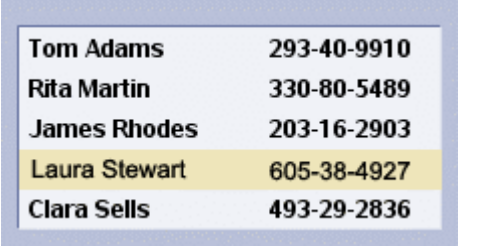
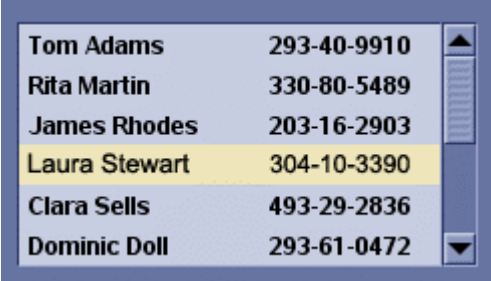
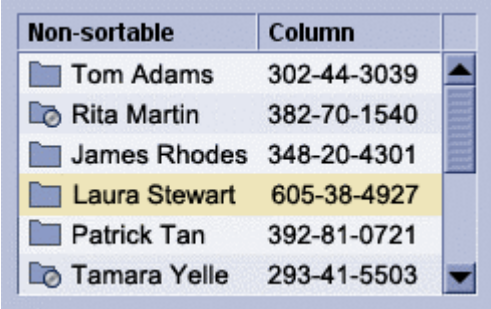
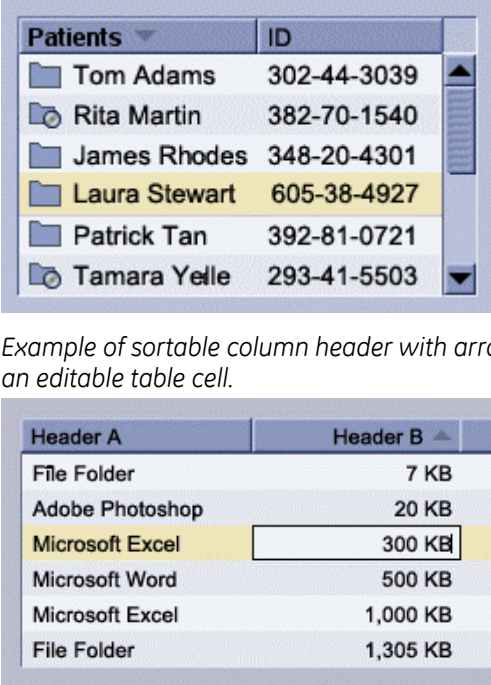
Sortable Column Header uses Command Buttons with squared off corners.

Column label text is indented consistently from the edge of the column header (left or right).

The sort arrow is indented consistently from the right edge of the column label text.

Primary and secondary selection colors are supported; see 6 CUI Colors (p. 40).

Table 26: Table appearance

<p>Table without header or scroll</p>																						
<p>Table with scroll</p>																						
<p>Table with non-sortable column headers and scrolls</p>																						
<p>Table with sortable column headers</p>	 <p><i>Example of sortable column header with arrow placement and an editable table cell.</i></p> <table border="1" data-bbox="683 1520 1349 1803"> <thead> <tr> <th>Header A</th> <th>Header B ▲</th> <th>Header C</th> </tr> </thead> <tbody> <tr> <td>File Folder</td> <td>7 KB</td> <td>33,000</td> </tr> <tr> <td>Adobe Photoshop</td> <td>20 KB</td> <td>12,000</td> </tr> <tr> <td>Microsoft Excel</td> <td><input type="text" value="300 KB"/></td> <td>2,200,00</td> </tr> <tr> <td>Microsoft Word</td> <td>500 KB</td> <td>3,000</td> </tr> <tr> <td>Microsoft Excel</td> <td>1,000 KB</td> <td>24,802</td> </tr> <tr> <td>File Folder</td> <td>1,305 KB</td> <td>45,230</td> </tr> </tbody> </table>	Header A	Header B ▲	Header C	File Folder	7 KB	33,000	Adobe Photoshop	20 KB	12,000	Microsoft Excel	<input type="text" value="300 KB"/>	2,200,00	Microsoft Word	500 KB	3,000	Microsoft Excel	1,000 KB	24,802	File Folder	1,305 KB	45,230
Header A	Header B ▲	Header C																				
File Folder	7 KB	33,000																				
Adobe Photoshop	20 KB	12,000																				
Microsoft Excel	<input type="text" value="300 KB"/>	2,200,00																				
Microsoft Word	500 KB	3,000																				
Microsoft Excel	1,000 KB	24,802																				
File Folder	1,305 KB	45,230																				

## 7.11.3 Tree

### 7.11.3.1 Description

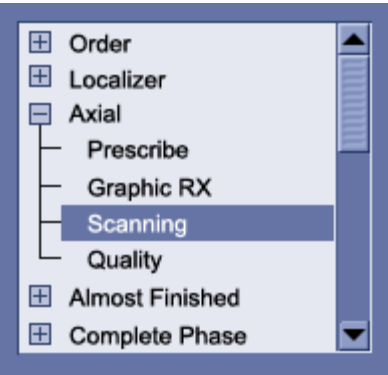
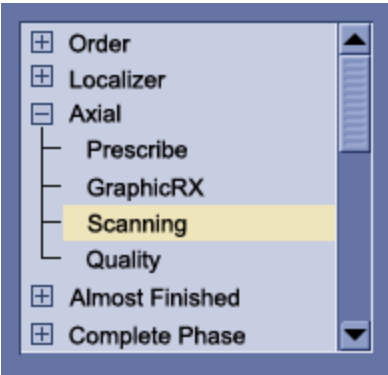
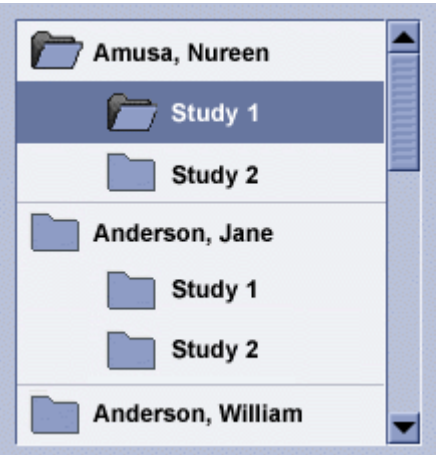
A tree is a representation of hierarchical data (for example, directory and file names) as a graphical outline. Clicking on branch nodes expands or collapses elements of the outline.

### 7.11.3.2 Appearance

If the tree requires two levels of selection (a group and item within a group) contact an IDG/CUI Representative.

Primary and secondary selection colors are supported; see 6 CUI Colors (p. 40).

Table 27: Tree appearance

<p>Tree</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p><i>Tree for monochrome monitor</i></p>  </div> <div style="text-align: center;"> <p><i>Tree for color monitor</i></p>  </div> </div> <p style="text-align: center;"><i>Example of style variation for trees</i></p> 
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## 7.12 Tabs

A tab is a container that enables users to switch between multiple content panels which share the same space on screen. Selecting the tab changes the panel that is displayed.

~~Req. 12382: Tabs in a group shall be the same width.~~

(This requirement has been removed from V6 because it has been made into a recommendation.)

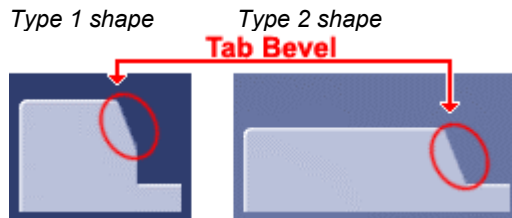
It is recommended that tabs in a group be the same width.

Tabs may be labeled with icons, text, or icons and text. Icons use CUI icon style.

CUI supports two types of tabs: Type 1 and Type 2. These tabs are designed to be scalable to meet varying screen space constraints.

When necessary, the height of Type 1 tabs increase to accommodate text and icons. The angle and length of the bevel (circled in Figure 41) remains the same for both types of tab.

**Figure 41: Example of Type 1 and Type 2 tab shapes**



~~Req. 8245: There shall only be one row of tabs per panel (i.e., the tabs should not wrap, scroll, or create more than one row).~~

(This requirement is removed because it has been made into a recommendation.)

It is recommended that there only be one row of tabs per panel (i.e., the tabs should not wrap, scroll, or create more than one row).

### 7.12.1 Type 1 Tabs

#### 7.12.1.1 Appearance

For horizontal tabs that use an icon and text label on the tab, the label must be short and concise to fit the narrow width of the tab. Text labels are only one line for Type 1 tabs. If the text label length exceeds one line, consider placing the text label within the body of the panel.

For horizontal tabs that only use an icon, the icon must be identified with a tooltip on mouseover.

For horizontal tabs that place the label below the icon in the tab panel:

- It is recommended to place the label under the icon within the body of the tab panel.
- It is recommended to center the label under the icon if possible.
- If some or all labels are too long to center (e.g., for translated languages), the label may be justified. However, all labels must be consistent for all tabs.

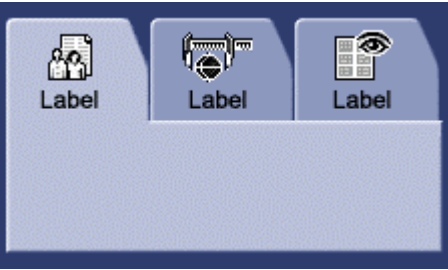

For vertical tabs that have both an icon and text label on the tab:

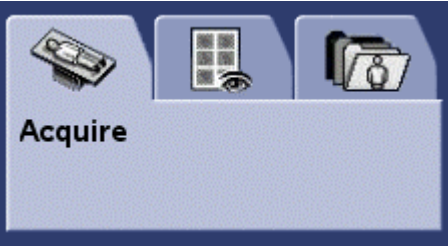




- Text labels, if used, remain horizontal to retain readability. (See section 14.5 Text Orientation, p. 152.)
- The label is centered under the icon.
- The label must be short and concise to fit the narrow width of the tab. Text labels are only one line for Type 1 tabs. If the text label length exceeds one line, consider placing the text label within the body of the panel.

For vertical tabs with icon and label in tab panel:

- Place the label within the body of the tab panel and center it at the top of the panel.
- There must be a tooltip on mouseover to identify the icon.

**Table 28: Type 1 tab appearance**

<p><b>Horizontal Type 1 Tabs</b></p>	<p><i>Tabs with icon and text label on the tab</i></p>  <p><i>Tabs with icon only</i></p> 
--------------------------------------	--

<p><b>Horizontal Type 1 Tabs (continued)</b></p>	<p><i>Tabs with icon and text label below the tab</i></p> 
<p><b>Vertical Type 1 Tabs</b></p>	<p><i>Tabs with icon and text label on the tab</i></p>  <p><i>Tabs with icon and label in tab panel</i></p> 
<p><b>Type 1 Tab with Cursor or Tab Key Focus</b></p>	
<p><b>Type 1 Tabs Low-Lighting Color Scheme</b></p>	

## 7.12.2 Type 2 Tabs


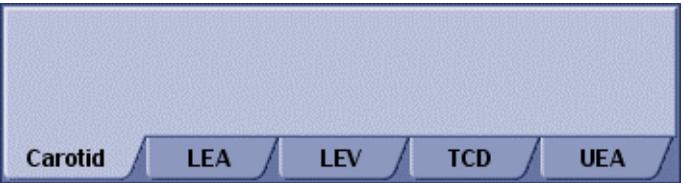
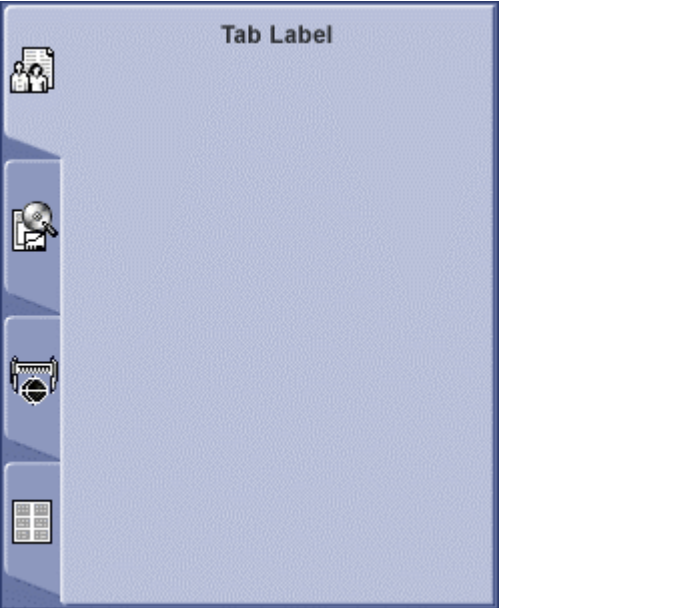
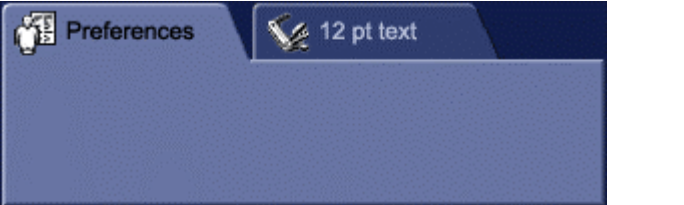
### 7.12.2.1 Appearance

If only text labels are used, center the text in the tab.

Horizontal Bottom Type 2 Tabs follow the same specifications as Horizontal Top Type 2 Tabs.

When using tabs, a horizontal tab configuration is preferred.

Table 29: Type 2 tab appearance

<p><b>Horizontal Top Type 2 Tabs</b></p>	
<p><b>Horizontal Bottom Type 2 Tabs</b></p>	
<p><b>Vertical Left Type 2 Tabs</b></p> <p>When labeling a vertically oriented tab, center the label at the top of the tab</p> <p>Due to the narrow width of tab, vertical tabs can only be labeled with an icon. There must be a tooltip on mouseover to identify the icon.</p>	
<p><b>Type 2 Tabs low lighting color scheme</b></p>	

## 7.13 Panels

### 7.13.1 Description

Panel is an area that is used to contain other user interface objects. Panels often contain other panels. Those panels visible to the user are used for grouping. Excessive use of group boxes creates visual clutter. Too many lines and edges can distract the user. Try using white space instead of secondary group boxes.

Panels may or may not be visible to the user. A panel is visible when its background is a different background color from the panel that it sits on, or it is visible when it has a border applied around it. Panels should have a flat look to avoid any confusion with interactive controls.

#### 7.13.1.1 Appearance

Panels

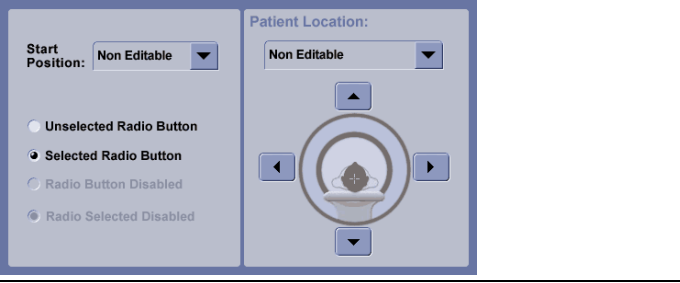
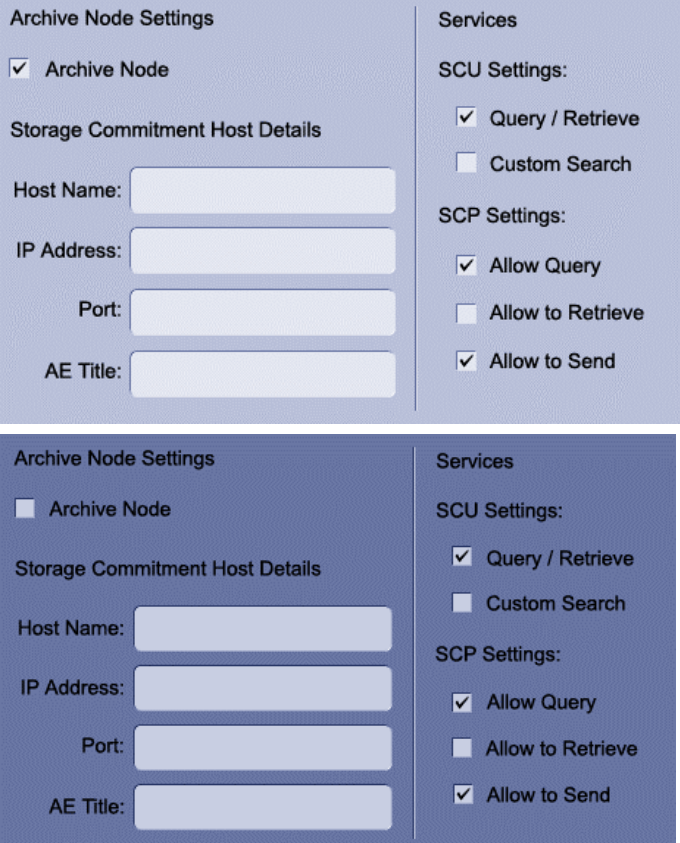
- Color identifies grouped elements. Corners are rounded.
- In a linear border, the use of a header identifies a grouping of elements.
- In a linear border, the top corners of the header are rounded.
- In a linear border, a thin line outlines the elements.
- In a linear border, the color within the border is the color of the area.

Groupings

- A beveled line may be used to divide groups of related controls/information.

Table 30: Panel appearance

Panel with linear border and header	
Panel with linear border and no header	

<p><b>Panel with area border no header</b></p> <p><b>NOTE:</b> This control only applies to screens that use the low-lighting palette.</p>	
<p><b>Groupings</b></p>	

## 7.14 Panes

### 7.14.1 Scroll Pane

#### 7.14.1.1 Description

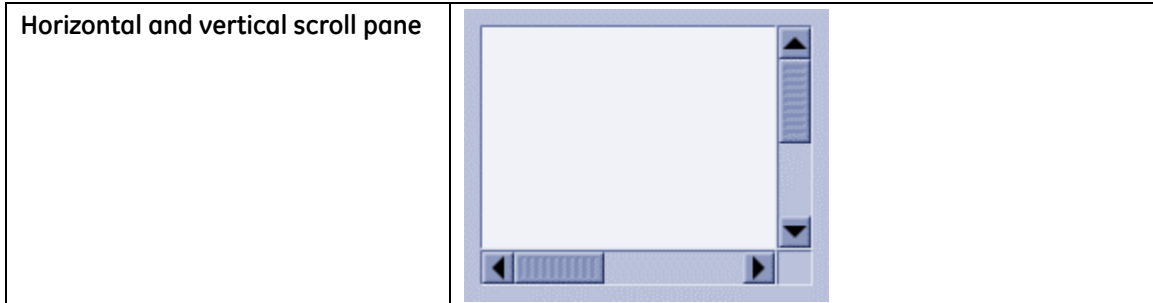
A scroll pane is a panel that scrolls its contents. The scroll pane can contain any visual display that exceeds the space available. For example, a large graphic could be contained in a scroll pane.

The scroll pane contains content that exceeds the space available.

### 7.14.1.2 Appearance

Field follows CUI standard associated with content (tree, text, list, table, etc.)

Table 31: Scroll pane appearance



## 7.14.2 Split Pane

### 7.14.2.1 Description

Panes divide a rectangular area vertically or horizontally into sub-panes with a divider between them. Sub-panes may be resizable to allow more information to be shown. Sub-pane sizing has a directly proportional relationship to other sub-panes in the window, i.e., increasing the size of one pane decreases the size of the other. Users resize the panes by clicking on the divider between the panes and dragging the mouse.

Panes are commonly used to provide navigational functions or to display additional information about the selected item.

**Req. 12375: The divider between resizable panes shall have a gripper, if the platform supports the gripper.**

The features of a pane that may be resized are identified by a gripper. The gripper runs the full length of the pane divider, as shown in Table 32.

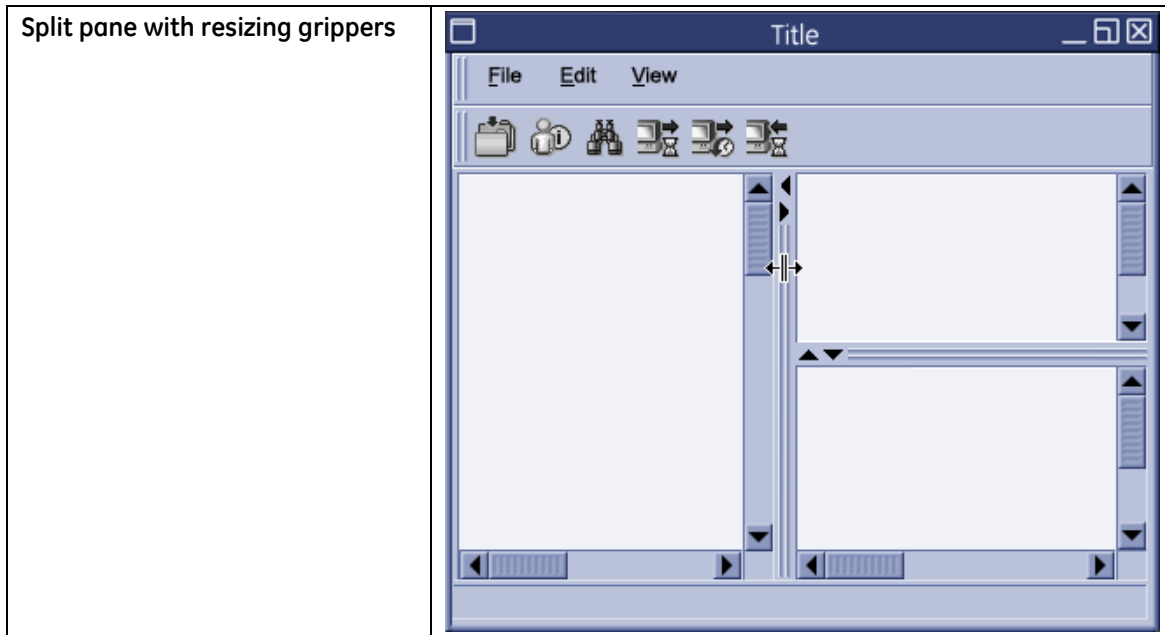
For platforms that do not support a gripper, a visual change in the cursor is required when the user mouses over the draggable area.

~~Req. 12376: If panes are resizable, the cursor shall change to a resize cursor when the user mouses over the divider.~~

(This requirement removed from V6 because it is combined with Req. 12369, p.96.)

## 7.14.2.2 Appearance

Table 32: Split pane appearance



## 7.14.3 Resizing Grippers

Grippers are a visual indication that a control or part of a control is able to be resized.

**Req. 14588:** Controls that are resizable shall display resize grippers on the active area.

Resize grippers (as opposed to movable grippers) show a set of directional arrows. For vertical gripper, the arrows are at the top of the gripper. For horizontal grippers, the arrows are on the left of the gripper.

Clicking on the arrows allows the control to resize incrementally.

**Req. 12368:** The resize grippers shall only be shown on objects that are resizable. (That is, do not place grippers on objects that do not have resizing capability.)

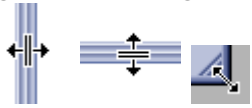
**Req. 14589:** Grippers shall span the full height or width of the resizable area.

**Req. 12369:** The mouse pointer shall change to a directional resize pointer when the user mouses over the active area (gripper).

The change in cursor informs the user that the area is resizable. The resize mouse pointer indicates the direction of movement allowed: vertical, horizontal, or diagonal.





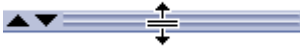



Figure 42: Resizing indicators



### 7.14.3.1 Appearance

Grippers used for resizing include directional arrows.

Table 33: Gripper appearance

<p><b>Resizable Pane Horizontal Gripper</b></p>	<p><i>Grippers on P7 (standard office lighting)</i></p>  <p><i>Grippers on P9 (low-lighting)</i></p> 	
<p><b>Vertical Resize Cursor on Horizontal Gripper</b></p>		
<p><b>Resizable Pane Vertical Gripper</b></p>	<p><i>Grippers on P7 (standard office lighting)</i></p> 	<p><i>Grippers on P9 (low-lighting)</i></p> 
<p><b>Horizontal Resize Cursor on Vertical Gripper</b></p>		

## 7.15 Tool Palettes

### 7.15.1 Description

A Tool Palette provides convenient and quick access to a set of frequently used commands or options.

Tools are bundled in a palette and identified with a header and a title.

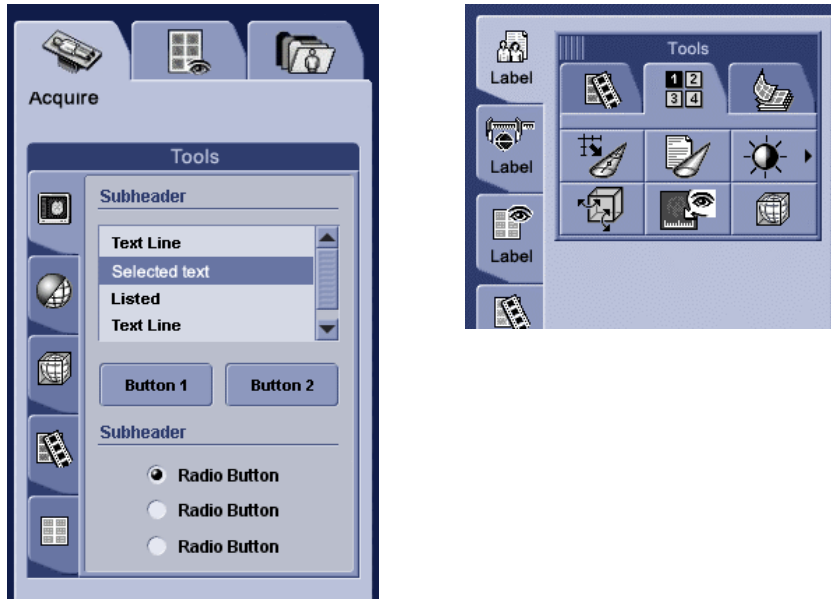
A tool palette may be positioned in the left navigational area of the interface.

Tool palettes may contain buttons or a tool panel that contains other controls such as text fields and combo boxes.

The convention to display tools is a tabbed pane configuration. If the number of tabs exceeds the horizontal space available, consider a vertical tabbed palette, vertical stacked tool palette, or multiple tool palettes.

If tabs are used for primary navigation (see section 3.3 Application Navigation and Layout, p. 23), tool palette tabs must have a different orientation, as shown in Figure 43. (Note that tabs within tabs are not a preferred design.)

**Figure 43: Examples of tool palettes within the left navigation area**



## 7.15.2 Tabs in a Tool Palette

Tabs are used in tool palettes to organize tools within the palette.

A tab is a container that enables users to switch between multiple logical content panels which share the same space on screen. Selecting the tab changes the panel that is displayed.

If the number of tabs exceeds the horizontal space available, consider vertical tabs, vertical stacked tool palettes or multiple tool palettes.

Tabs in a tool palette have a similar shape to the Type 1 tabs described in section 7.12.1 Type 1 Tabs (p. 89). In order to visually show the tabs' use in the context of a tool palette, these tabs differ from the Type 1 tabs in the following ways:

- Color: Tool palette tabs use their own color scheme. The selected tab is P8 and unselected tabs are P9.
- Labeling: Tool palette tabs are labeled with either an icon (and tooltip on mouseover) or text. They are not labeled with both an icon and text.

Guidelines for tabs in a tool palette:

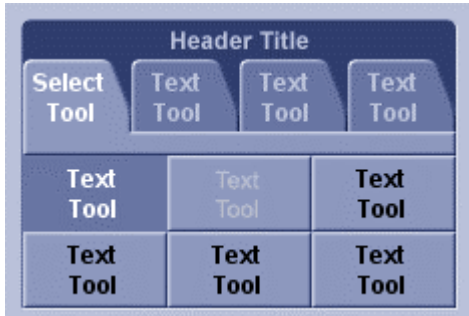
- Tabs in a tool palette behave as described in section 7.12 Tabs (p. 89).
- All tabbed panels are the same size.

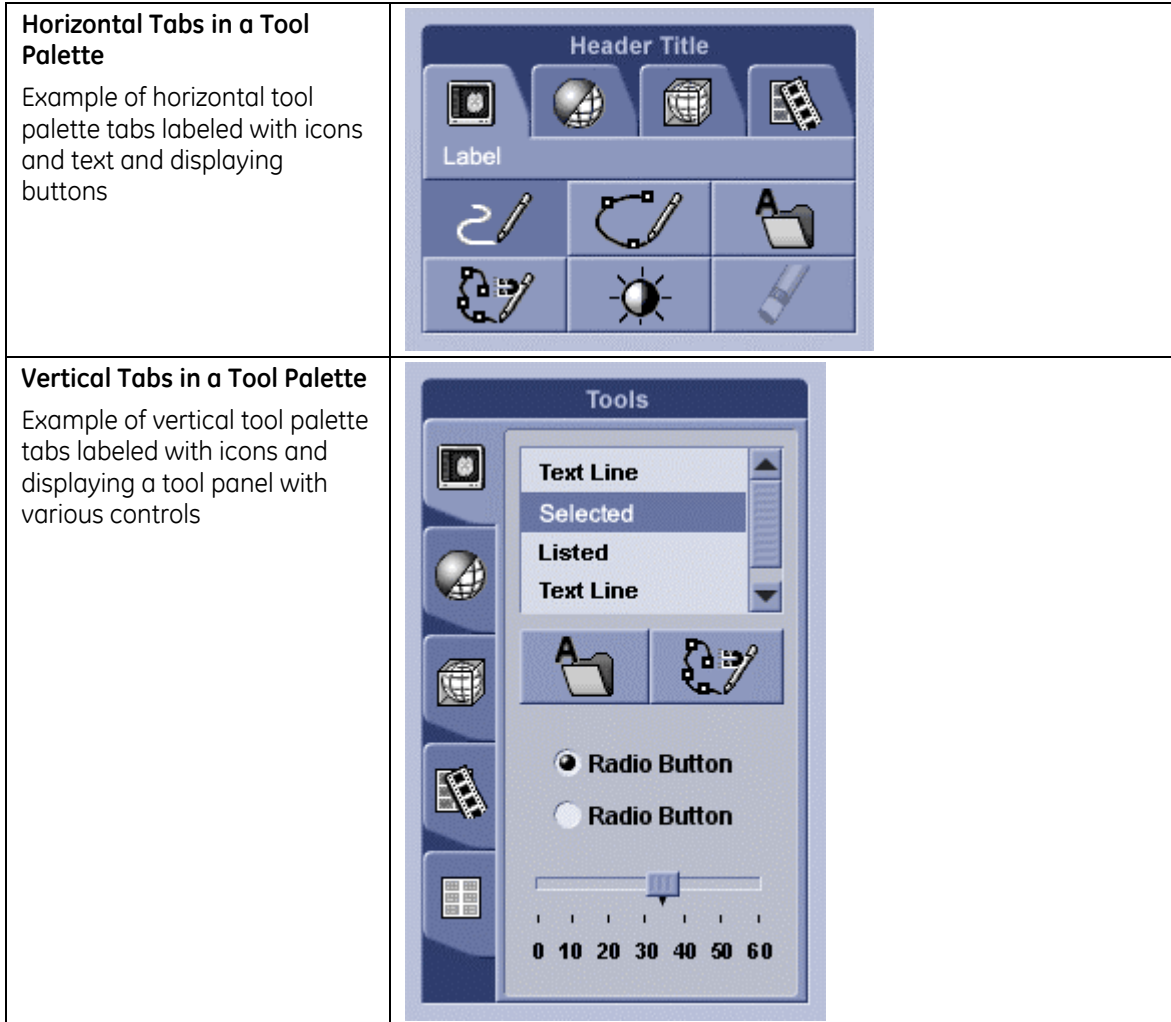
### 7.15.2.1 Appearance

For Horizontal Tabs in a Tool Palette, a text label in addition to an icon is preferred. If the screen space allows, place the text label within the body of the panel.

Vertical tabs are labeled with icons only.

**Table 34: Tool Palette appearance**

<p><b>Horizontal Tabs in a Tool Palette</b></p> <p>Example of horizontal tool palette tabs labeled with text and displaying buttons</p>	
---	--



### 7.15.3 Buttons in a Tool Palette

Buttons within the palette may either be standard command buttons that initiate single action (see section 7.2 Command Button, p. 59) or they may be configurable buttons in which the user can change the function of the button.

Tool palette buttons are identified with a label, tooltip, or both (see Req. 55, p. 151).

Configurable buttons are designated by an arrow on the button. On mouseover, button borders appear, reinforcing that the arrow is clickable. When the arrow is clicked, a pop-up displays a selection of interchangeable tools. When a user selects a new tool from the pop-up, the old tool functionality is replaced by the new tool selection.

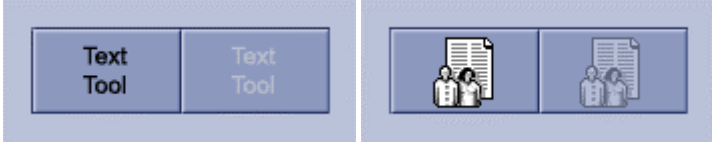
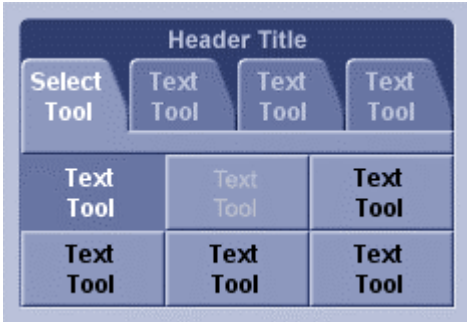

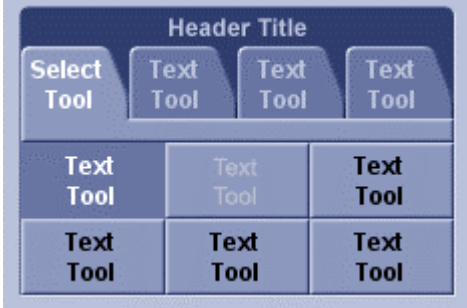
When a user clicks on a command button in a tool palette, the pointer icon may change to designate and reinforce the tool being used.

### 7.15.3.1 Appearances

Disabled buttons in a tool palette are different from disabled command buttons; the button face color does not change. The appearance of a disabled icon fades back into the background.

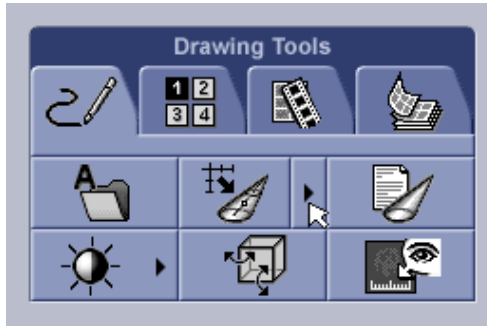
See section 9.2 Icon Style, p. 133. for more information about creating the disabled state of an icon.

**Table 35: Button appearance**

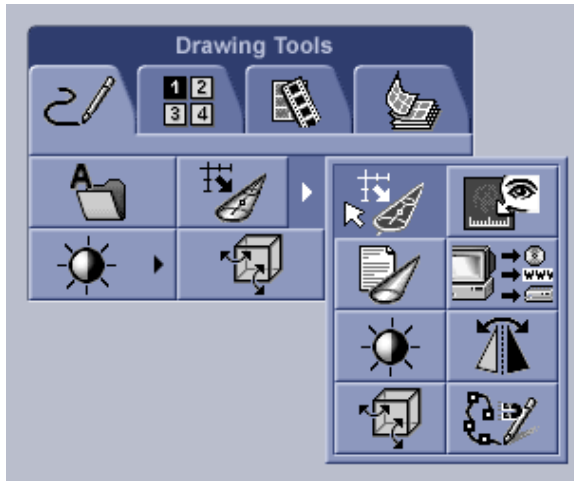
<p><b>Disabled Buttons in a Tool Palette</b></p>	<p><i>Examples of enabled and disabled text and icons on tool palette buttons</i></p>  <p><i>Example of a tool palette with disabled button and text</i></p> 
<p><b>Disabled Buttons in a Tool Palette (continued)</b></p>	<p><i>Example of a tool palette with disabled button and icon</i></p> 
<p><b>Text Labels on Tool Palette Buttons</b></p>	

**Configurable Button with selection pop-up menu**

*Example of a configurable button on mouseover*



*Example of an expanded configurable tool button with selection pop-up menu*



## 7.15.4 Tool Panel

Tool panels are used to display a collection of controls of different types.

Tool panels can be used in collapsible and non-collapsible tool palettes and in vertical stacked tool palettes. These tool panels cannot be placed within movable tool palettes.

### 7.15.4.1 Appearances

The intent of the tool panel is to provide an area to place controls. It is an inset box with rounded corners.

Controls contained in the tool panel are standard CUI controls.

Table 36: Tool panel appearance

<p>Tool Panel</p>	
-------------------	--

Examples of the preferred use of tool panels, shown here in a left navigation area:

*Tool panel in a horizontal tabbed palette*



*Tool panel in a vertical tabbed palette*



## 7.15.5 Collapsible Tool Palettes

Tool palettes have the capability to expand and collapse to accommodate space constraints. This capability is indicated with an arrow in the title area.

The tool palette expands or collapses when the user clicks on the arrow in right corner of the title header. The arrow points in the direction of the tool palette's movement. When the tool palette is collapsed, only the title header with expand arrow is displayed. When the tool palette is expanded, the contents of the palette are displayed.

The use of multiple palettes is very common in many user interfaces. When multiple collapsible palettes are available and open, a scroll bar may be used to display all palettes. Tools should be arranged so that the most important tools are on the screen at all times. Consult an IDG/CUI Representative to determine the best arrangement of palettes for the interface.

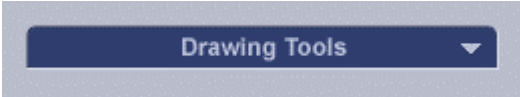
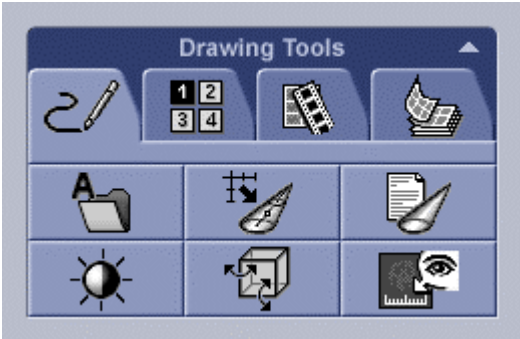
Guidelines for collapsible tool palettes:

- More than one tool palette may be open at a time.
- All tool palettes are the same width.
- Tool palette length may vary.
- Tool palettes do not change position.
- Collapsible tool palettes are commonly placed in the left navigation area.
- Scrolling is allowed if multiple tool palettes are expanded and exceed the available screen space.

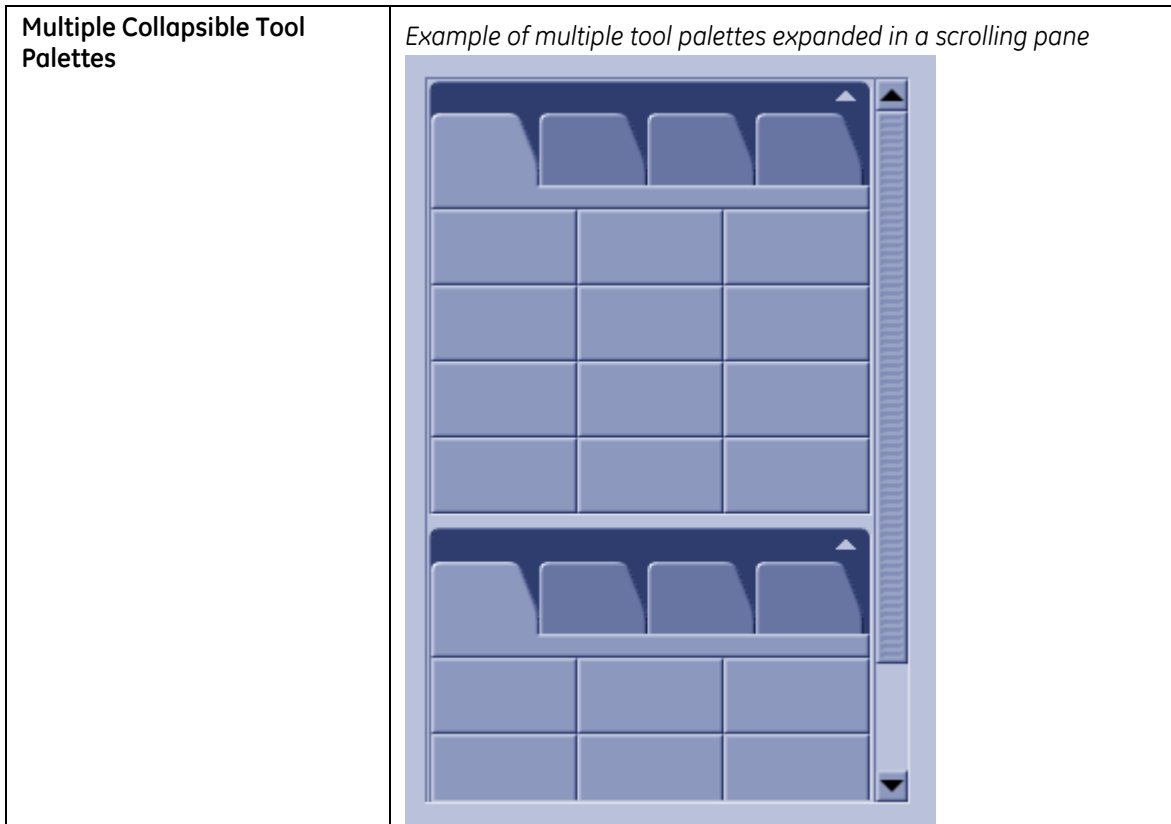
### 7.15.5.1 Appearances

Tool palettes can be collapsed or expanded. Scrolling is allowed if multiple tool palettes are expanded and exceed the screen space.

**Table 37: Collapsible tool palette appearance**

<p><b>Collapsible Tool Palette Title Header</b></p>	<p><i>Example of a collapsed tool palette</i></p>  <p><i>Example of an open tool palette</i></p> 
---	---





## 7.15.6 Movable Tool Palettes

Applications have a dedicated navigation space on screen. A movable tool palette has a reserved position within the navigation space. To float a movable palette is to drag it from its reserved position and into the work area. To dock a movable palette is to place it back in its reserved position. (Note that Microsoft standard drag and dock behavior is not prohibited by this specification. Other behaviors may be employed.)

Guidelines for movable tool palettes:

- Multiple movable tool palettes can be floated and docked independently.
- All tool palettes are the same width.
- Tool palette length may vary.
- Scrolling of movable tool palettes is not allowed.

**Req. 12377:** If tool palettes are movable, the palette shall have a title header area.

**Req. 12378:** If tool palettes are movable, the cursor shall change to an omni-directional cursor when the user mouses over the tool palette header.

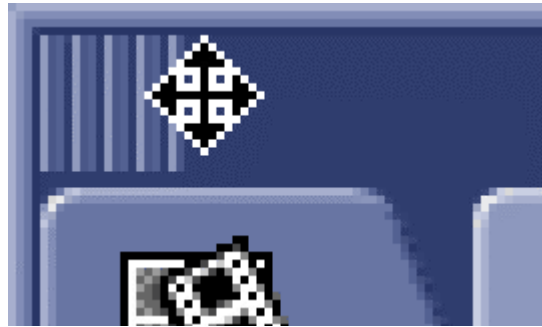
The change in cursor informs the user that the palette is movable.

**Figure 44: Omni-directional cursor**

*Omni-directional cursor, actual size*

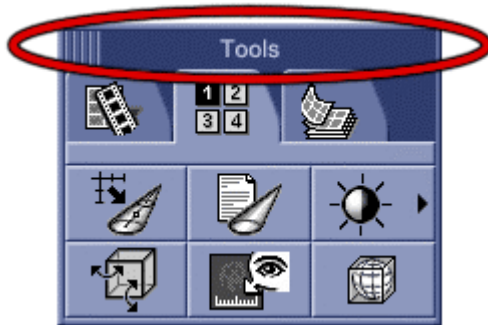


*Omni-directional cursor, enlarged to show detail*



If tool palettes are movable, the entire title header area (circled in Figure 45) is active to move the palette

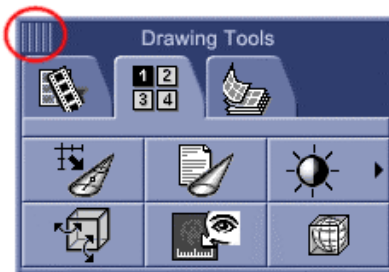
**Figure 45: Area to be active for moving tool palettes**



If the platform allows, it is preferred that the title header also have a gripper on the left side (shown in Figure 46) to indicate that the palette is movable.

**Figure 46: Movable tool palette with gripper in the title header**

*Movable tool palette gripper, actual size*






*Movable tool palette gripper, enlarged to show detail*



## 7.15.6.1 Appearance

Movable palettes should not be collapsible.

**Table 38: Movable palette appearance**

<p><b>Movable Tool Palette</b> If the platform allows, it is preferred that the title header also have a gripper on the left side to indicate that the palette is movable.</p>	<p><i>With gripper</i></p> 	<p><i>Without gripper</i></p> 
<p><b>Movable Tool Palette</b> This example shows a movable tool palette within tab set.</p>		

## 7.16 Toolbars

### 7.16.1 Description

A Toolbar is a vertical or horizontal bar containing logical groupings of tools that provide convenient and quick access to a set of frequently used functions. The program team decides if the user will be able to change the orientation of the toolbar (from horizontal to vertical or vice versa).

Toolbars may either be docked along the edge of a screen or dragged to “float” over the work area.

Toolbars are recommended for programs that have little screen space for controls.

Toolbar buttons are identified with either an icon and a tooltip, an icon and text label, or text labels only (see Req. 55, p. 151). In toolbars, it is preferred that only icons and tooltips be used. Text labels may be included with the icon if the symbols are not recognizable (based on user testing). Text labels only are the least preferred method to label toolbar buttons.

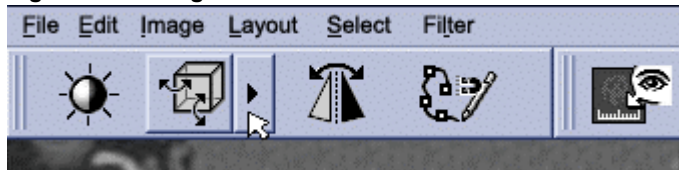
## 7.16.2 Behavior

A Toolbar is located at the edge of the window or area on which it operates.

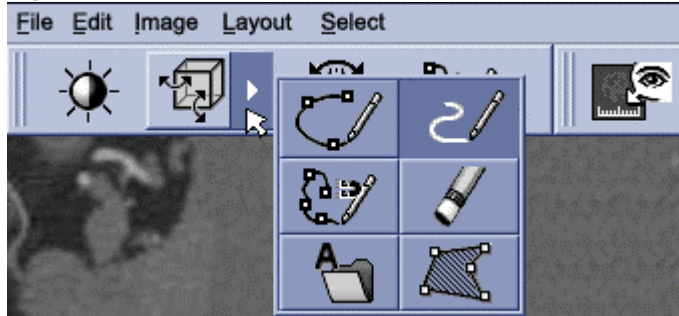
When an icon or arrow is moused over, the button borders appear and the buttons become a target for interaction, as shown in Figure 47. Buttons within a Toolbar may either initiate a single action or they may be configurable, in which the user can change the function of the button.

Configurable buttons are designated by an arrow on the button. On mouseover, button borders appear, reinforcing that the arrow is clickable, as shown in Figure 47. When the arrow is clicked, a pop-up displays a selection of interchangeable tools, as shown in Figure 48. When a user selects a new tool from the pop-up, the old tool functionality is replaced by the new tool selection.

**Figure 47: Configurable toolbar button on mouseover**



**Figure 48: Toolbar with open tools**



When a user clicks on a command button in a Tool Palette, the pointer icon may change to designate and reinforce the tool being used.

## 7.16.3 Movable Toolbars

Toolbars may be moved from the edge of the screen to the work area and back again.

- When a toolbar resides along the edge of the screen or within a space dedicated to navigation or controls, it is docked.
- When a toolbar is moved from the navigation or control area and appears over the work area, it is floating.

There is a textured gripper area on the left of the horizontal Toolbar or at the top of the vertical Toolbar. The title header (when floating) may be used to move the toolbar.

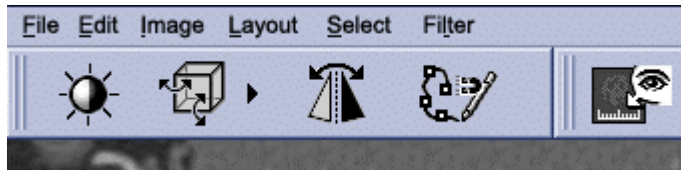
Pulling the toolbar over to or near the original position will dock the toolbar.

**Req. 12379:** If toolbars are movable, there shall be a movable gripper on the left edge of a horizontal toolbar or on the top edge of a vertical toolbar when it is docked.

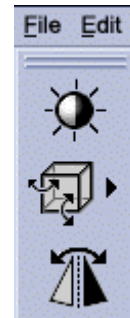
**Req. 14590:** Movable grippers should only be applied to objects that can be moved but not resized.

**Figure 49: Docked toolbars**

*Docked horizontal toolbar*



*Docked vertical toolbar*

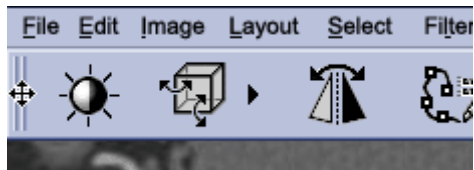


**Req. 12380:** If toolbars are movable, the cursor shall change to a omni-directional cursor when the user mouses over the title header or gripper.

The change in cursor informs the user that the toolbar is movable. It is recommended that the cursor also change whenever any area of the toolbar that is not a button is moused over, if the operating system allows.

**Figure 50: Omni-directional cursor**

*Actual size*



*Enlarged to show detail*

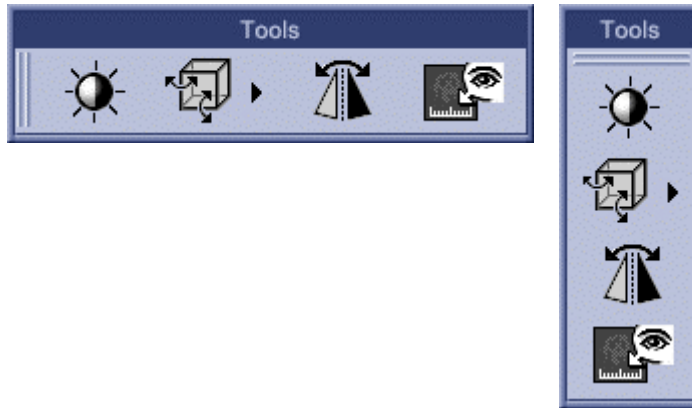


**Req. 12381:** When a toolbar is floating, it shall have a title header.

If the operating system permits, the gripper may remain on the toolbar when the toolbar is floating. The title header area is very similar in function to the title bar Microsoft Office applications use on floating toolbars.

The title of the toolbar should reflect the contents or function of the toolbar.

Figure 51: Floating toolbars with title header


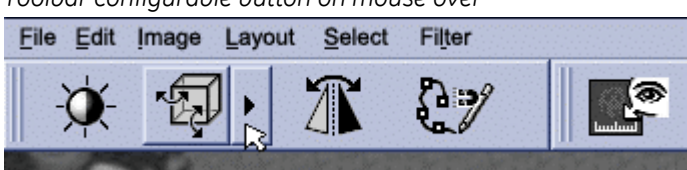
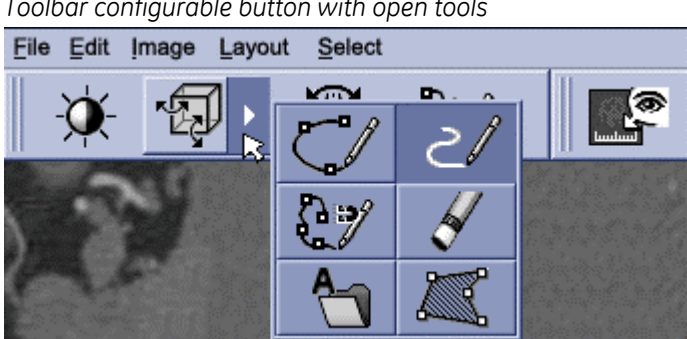


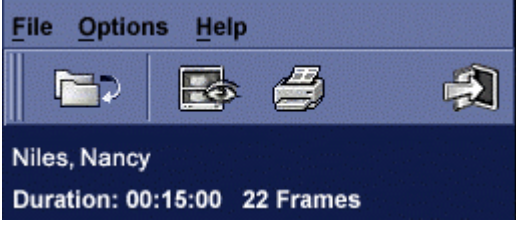
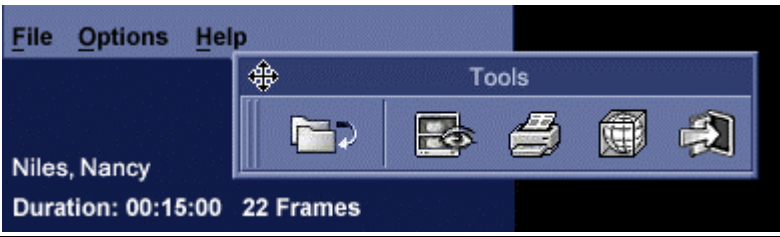
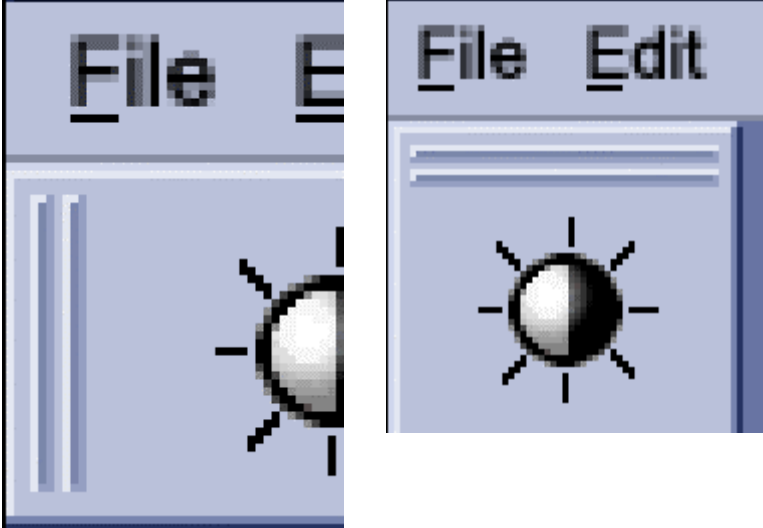
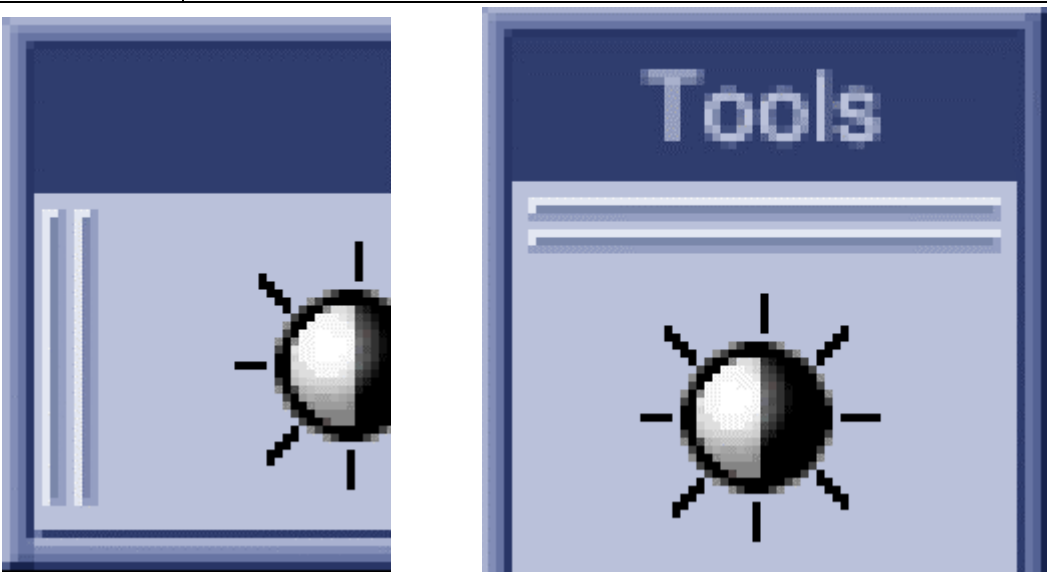
## 7.16.4 Appearance

A title bar appears above the toolbar when it is un-docked.

An omni-directional cursor appears as the toolbar is being dragged (floating).

Table 39: Toolbar appearance

<p>Toolbar</p>	<p><i>Toolbar with configurable button</i></p>  <p><i>Toolbar configurable button on mouse over</i></p>  <p><i>Toolbar configurable button with open tools</i></p> 
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<p>Movable Toolbar in Left Navigation - Docked</p>	
<p>Movable Toolbar in Left Navigation - Floating</p>	
<p>Gripper on docked toolbar Enlarged to show detail</p>	<p><i>Horizontal Toolbar</i>      <i>Vertical Toolbar</i></p> 
<p>Title bar on floating toolbar Enlarged to show detail</p>	

## 7.17 Informational Graphics (read-only)

### 7.17.1 Description

Sometimes, a picture is needed for informational purposes and the user has no interaction directly with the graphic. The graphic could be used to indicate a state, show a result, or be animated to indicate that something is working.

Be careful to make sure the graphic does not look selectable. There should be no border put on the graphic so that it cannot be mistaken for a button.

### 7.17.2 Appearance

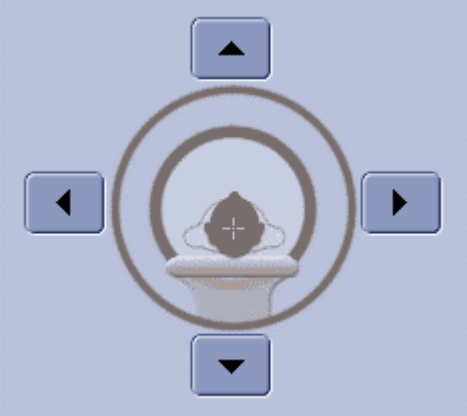
In this example, the picture reflects the action of the buttons.

The picture reflects the action of the buttons.

Controls used in conjunction with a graphic are CUI standard.

**NOTE:** The example below shows how an informational graphic was used for one product. Other variations for combining graphics and CUI controls exist.

Table 40: Graphic appearance

<p><b>Informational Graphic</b> Example of using a graphic with buttons.</p>	
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## 7.18 Touch Screen Controls

This section lists the current variations of controls to be used for a touch screen interface intended for finger-tip interaction.

Touch screen controls generally follow all CUI standards, except that the control size is increased.

### 7.18.1 General Recommendations

It is difficult to drag objects (such as sliders or scrollbars) on a touch screen. If sliding/dragging controls are used, be sure to confirm through usability testing that the control actually works for the application.

When designing touch screen interfaces, it is recommended that the entire screen not scroll horizontally or vertically. Consider using alternative methods to present additional information on these interfaces; for example, use sub-windows or tabs.

Design functions to activate with a single press. Avoid “double-clicking” and “right-clicking” behaviors.

Given users’ tendency to touch below the control, be aware of the vertical spacing between controls. We recommend increasing the vertical spacing.

**Req. 65: On a touch screen interface intended for finger-tip interaction, all controls shall be at least 12.7x12.7mm (0.5x0.5 in or 36x36 pixels).**

This minimum control size includes the line heights in Menus, Combo Boxes, Lists, Tables, and trees as well as the buttons on Combo Boxes. In general, larger control sizes reduce selection errors. As stated in other control descriptions, the width of the control may vary by content.

### 7.18.2 Command Buttons

The minimum size for these buttons is 12.7x12.7mm (0.5x0.5 in or 36x36 pixels) in height.





The ideal size for these buttons is 19.0mm (0.75 in or 54 pixels) in height to reduce touch errors.

Width is determined by content; however, button sizes should remain consistent within the application or grouping. A good rule is to find the widest button and set that width as the size for all buttons.

Spacing between the smaller buttons needs to be sufficient. Recommend at least 12.7mm or (0.5 in or 36x36 pixels).

The spacing between the larger buttons can be reduced in order to save screen space. Recommend that it is at least 3.2mm (0.125 in or 9 pixels).

Table 41: Command buttons for touch screen appearance

<p>Size</p>	<p><i>Minimum size</i></p>  <p><i>Ideal size</i></p> 
<p>Spacing</p>	<p><i>Preferred spacing</i></p>  <p><i>Alternate spacing</i></p> 


### 7.18.3 Radio Buttons

Radio buttons for a touch interface are placed on Command Buttons.

Text is indented from the circle field consistently throughout the interface.

Text is centered horizontally aligned on button.

Table 42: Radio buttons for touch screen appearance

<p>Radio Button states</p>	 <p>The image shows five radio button states on a blue button background:</p> <ul style="list-style-type: none"> <li><b>Unselected:</b> A white circle on the left.</li> <li><b>Selected:</b> A white circle with a black dot in the center.</li> <li><b>Disabled &amp; Unselected:</b> A light gray circle on the left.</li> <li><b>Disabled &amp; Selected:</b> A light gray circle with a black dot in the center.</li> <li><b>Focus:</b> A white circle on the left, with a yellow border around the button.</li> </ul>
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## 7.18.4 Checkboxes

Checkboxes for a touch interface are placed on Command Buttons.

Text is indented from the checkbox field consistently throughout the interface.

Text is centered horizontally on button.


Table 43: Checkboxes for touch screen appearance

<p>Checkbox states</p>	 <p>The image shows five checkbox states on a blue button background:</p> <ul style="list-style-type: none"> <li><b>Unselected:</b> An empty square box on the left.</li> <li><b>Selected:</b> A square box with a checkmark on the left.</li> <li><b>Disabled &amp; Unselected:</b> A light gray square box on the left.</li> <li><b>Disabled &amp; Selected:</b> A light gray square box with a checkmark on the left.</li> <li><b>Focus:</b> An empty square box on the left, with a yellow border around the button.</li> </ul>
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## 7.18.5 Scrollbar

Scroll bar size needs to be increased for touch screen. Vertical size for all interactive elements is a minimum of 12.7x12.7mm (0.5x0.5 in or 36x36 pixels) .



Table 44: Scrollbar for touch screen appearance

<p>Touch Screen example of a Scroll bar</p>	
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## 7.18.6 Combo Box

Vertical size for all interactive elements is a minimum of 12.7x12.7mm (0.5x0.5 in or 36x36 pixels) . Use the same size and spacing as in Touch Screen Command Buttons.

Table 45: Combo box for touch screen appearance

<p>Touch Screen example of a Combo Box, closed</p>	
<p>Touch Screen example of a Combo Box, opened</p>	

## 7.18.7 Spin Box

For the “standard” spin box, the text is centered vertically in the field.

Vertical size for all interactive elements is a minimum of 12.7x12.7mm (0.5x0.5 in or 36x36 pixels) . Use the same size and spacing as in Touch Screen Command Buttons.

Table 46: Spin box for touch screen appearance

Touch Screen examples of Spin boxes	
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## 7.19 Platform Support

The graphics defined in this document are the desired look for CUI. At this stage in the development of tools, it is not possible to achieve this look on all platforms. Until tools are available to achieve the V6 style or programs move to platforms that have better V6 tools, Table 47 Toolkit Comparison Matrix provides currently acceptable variances. The intent should be to always strive for the CUI style.

For Windows and Motif implementations, see section 22 Appendix C: Legacy Style Implementation (p. 201).





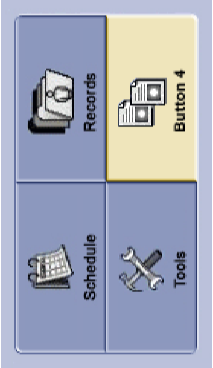
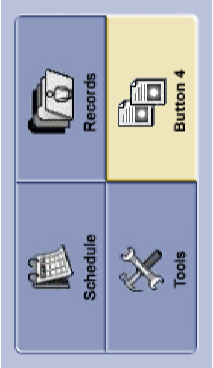

















**Req. 72:** Any graphic image files representing CUI Controls shall match graphics generated from a CUI Style compliant tool.


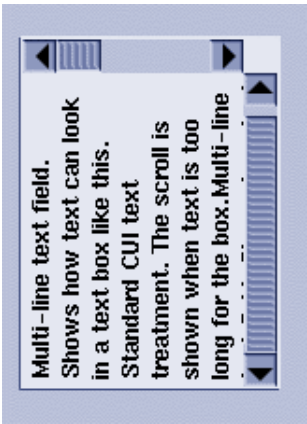







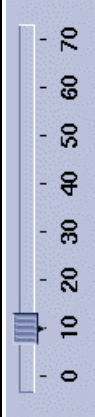


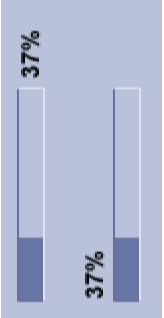
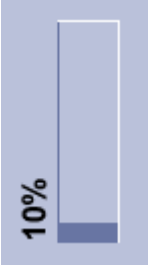

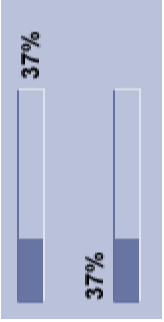
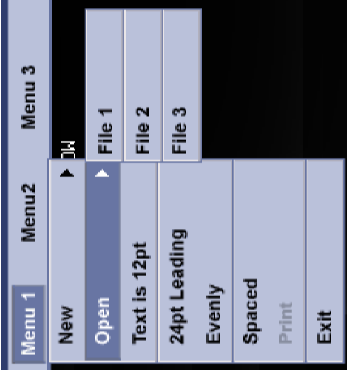
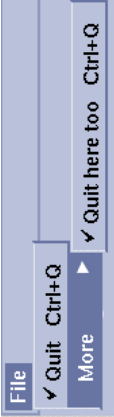
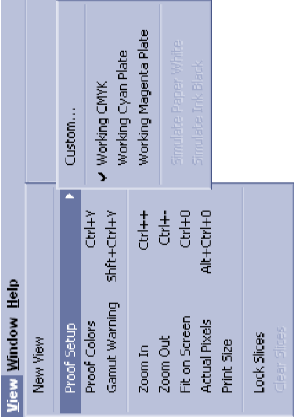
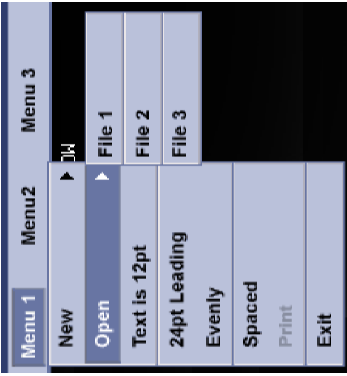
Graphic image files are BMP, JPEG, PNG, etc. Contact CSP-E for a tool to generate such images.

Links to the toolkit download sites are available from the Support Central - Global Design-Common User Interface (CUI) website:

[http://supportcentral.ge.com/products/sup\\_products.asp?prod\\_id=15917](http://supportcentral.ge.com/products/sup_products.asp?prod_id=15917)

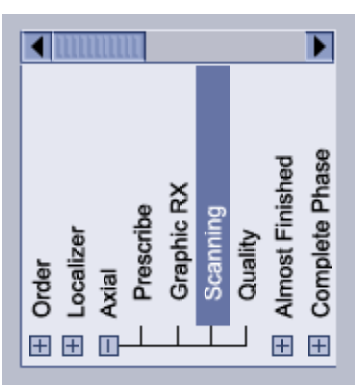
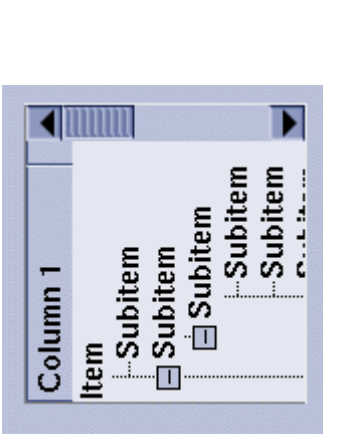
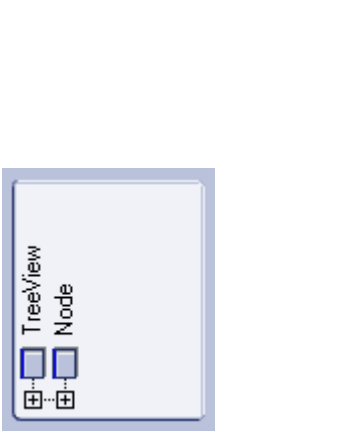
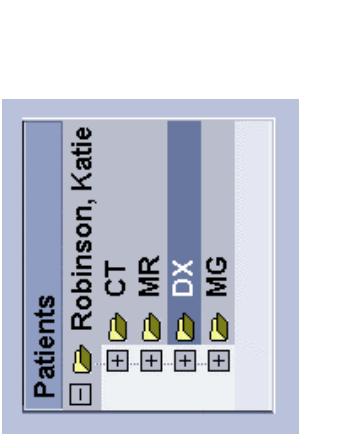
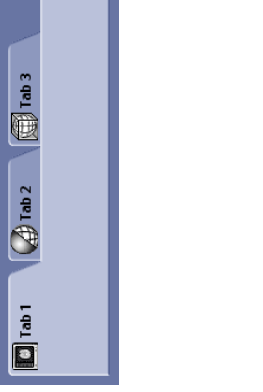
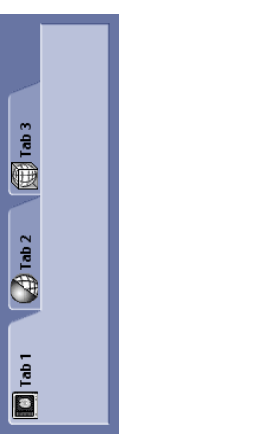
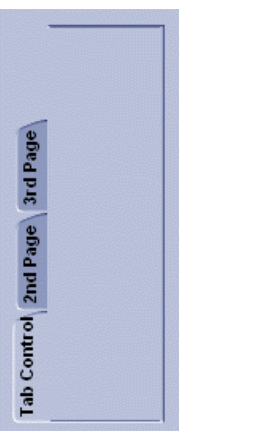
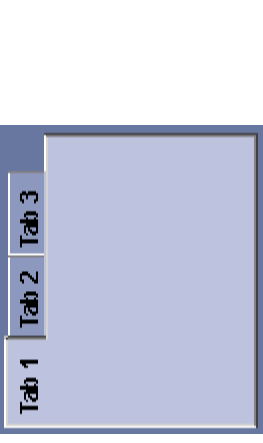
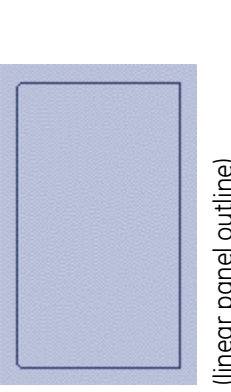
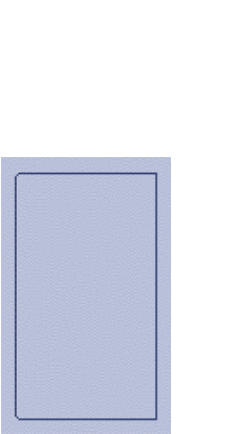
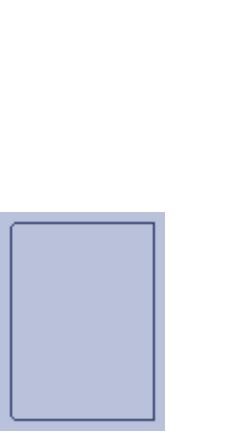
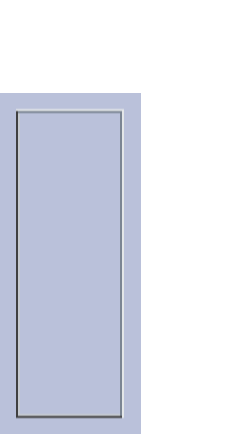
Table 47: Toolkit Comparison Matrix


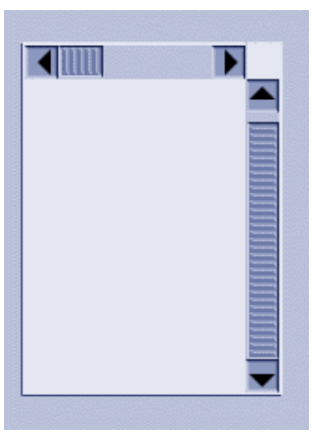
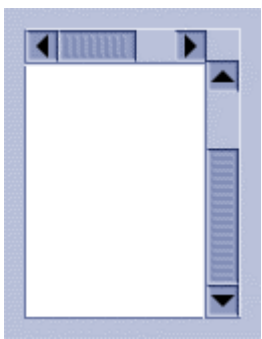
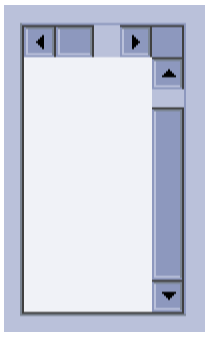




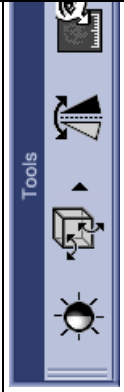





Control Type	Java PTK Toolkit	QT Toolkit	DirectSkin Toolkit	Web/CSS (for browser-based applications)
Command Button				
Toggle Buttons				 
Radio Button				 
Checkboxes				 
Text Field				

Control Type	Java PTK Toolkit	QT Toolkit	DirectSkin Toolkit	Web/CSS (for browser-based applications)
Text Area				
Scroll Bar				
Slider				
Progress Bar				
Menus				

Control Type	Java PTK Toolkit	QT Toolkit	DirectSkin Toolkit	Web/CSS (for browser-based applications)
Combo Box				
Spin Box				
List				
Table				



Control Type	Java PTK Toolkit	QT Toolkit	DirectSkin Toolkit	Web/CSS (for browser-based applications)
Trees				
Tabs				
Panel	 <p>(linear panel outline)</p>			

Control Type	Java PTK Toolkit	QT Toolkit	DirectSkin Toolkit	Web/CSS (for browser-based applications)
Scroll Pane				
Menu Bar				
Toolbar				Use standard browser Toolbar.
Window title bar				Use standard browser title bars

## 8 Fonts

### 8.1 Font Usage

Consistent use of fonts (type) promotes readability, strong brand identity, and ease of product development.

The CUI font requirements do not apply to the fonts used in waveforms or hardware labeling.

**Req. 2: Only CUI-approved fonts shall be applied to graphical user interfaces.**

Currently, the approved fonts are:

- Arial
- Helvetica
- Albany (by Monotype)

Below are examples of the prescribed Common User Interface fonts:

**Figure 52: Sample of Arial**

ABCDEFGHIJKLMNOPQRSTUVWXYZ 1234567890  
abcdefghijklmnopqrstuvwxyz 1234567890

**Figure 53: Sample of Helvetica**

ABCDEFGHIJKLMNOPQRSTUVWXYZ 1234567890  
abcdefghijklmnopqrstuvwxyz 1234567890

**Figure 54: Sample of Albany**

AÆBCDÐEFGHIJKLŁMN  
OŒØPǾQRSTUVWXYZ  
aæbcdðeffiflghijklłmn  
oœøppqrsßtuvwxyz  
0123456789\$¢£¥ªf#

Fonts should not be hard-coded or embedded into any application. Embedding or hard-coding of fonts makes application maintenance difficult.

If, for some reason, the approved fonts cannot be used, contact an IDG/CUI Representative for guidance in selecting an appropriate font.

We have selected these sans serif fonts for their readability on the screen, their availability, and style. Systems running on the Microsoft platform should have the Arial font installed as part of the base font set for all versions of Windows. If there are multiple versions of Arial, use the Monotype Arial version (Windows default). Ideally, UNIX and LINUX developers will have one of the other two fonts available for their use included with the tools.

As a global company developing global products, Unicode fonts are preferred. We recommend a review of the Unicode Standard (<http://www.unicode.org>) before design and implementation to determine its appropriateness for the product.

Unicode font sets provide the best solution for managing global character sets. Recommendations for alternative fonts to use in Chinese, Japanese and Korean applications are covered in section 8.2 Font Specifications for Languages Other than English (p. 127).

**NOTE:** Arial Unicode is not available as a CUI font selection because Microsoft bought the license for internal use. This restriction applies to “Arial Unicode” specifically; regular Arial fonts and Unicode fonts in general are still available for use.

The following table provides a guide for selecting a CUI font for specific platforms. This is for reference only, any CUI font may be used if it is supported/freely offered by the platform or appropriately licensed.

**Table 48: Suggested fonts for platforms**

Platform	Font for English/Latin-based Languages
Windows	Arial, Helvetica
Java	Albany, Helvetica
Linux	Helvetica <b>NOTE:</b> Linux is able to support any “Type 1” font.

There are two specific exceptions to this font usage standard:

- GE Branding (Graphical Splash Screens)
- Mono-spaced fonts (strongly discouraged)

GE Branding uses a different font, as defined in section 10 Identity and Branding (p. 134). GE Branding specifications are available at this website: <http://gein.med.ge.com/branding/index2.html>

**Req. 4109: CUI controls shall use one font throughout the user interface, except for the GE signature, approved mono-space fonts, and multi-byte character fonts.**

Fonts should not be mixed in the user interface in most instances. Mixing fonts makes the interface inconsistent and reduces legibility.

Languages using multi-byte characters may need use two different font types: one for numeric data and one for text characters.

**Req. 4: A mono-spaced font (e.g., Courier) shall only be used on CUI controls in approved cases.**

A mono-spaced font has all characters, spaces, and punctuation symbols the same width.

Example fonts: **Courier**, Letter Gothic

We strongly discourage the use of mono-spaced fonts on CUI controls, even for the display of column or tabular data or text input fields. If you must use a mono-spaced font, contact an IDG/CUI Representative for alternative design ideas or guidance in selecting an appropriate mono-spaced font.

## 8.1.1 Font Weight

All text used in CUI Controls (such as buttons, field labels, combo boxes, etc.) is bold. Text used in smaller elements that needs to retain legibility may use a “regular” font. Content text may use a “regular” font as long as it retains legibility. Otherwise, bold text is recommended.

## 8.1.2 Sizing

Font size depends on monitor resolution, viewing distance, and viewing environment.

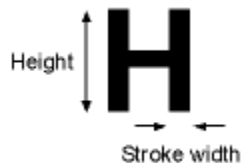
**Req. 5: The font height shall be no smaller than 3mm (0.12 inches) for a maximum viewing distance of 75 cm (29.25 inches).**

The font height refers to the literal size of the characters on screen. Therefore, the font size should be visually the same for all sizes and resolutions of displays.

The standard viewing distance is 50-75 cm (19.5-29.25 inches).

The National Institute of Standards and Technology (formerly known as the National Bureau of Standards) has developed a formula to determine the stroke width and height of a character, given the visual acuity of the viewer and the distance from which it will be viewed. When applying this formula, consider if you can assume all users will have corrected vision of at least 20/20 or if you need to assume a margin of error for corrected vision of 20/40.

**Figure 55: How to measure height and stroke width**



**Figure 56: Calculating character height and width when viewing from a distance**

$$W_S = 1.45 \times 10^{-5} \times S \times d$$

$$H_L = W_S / R$$

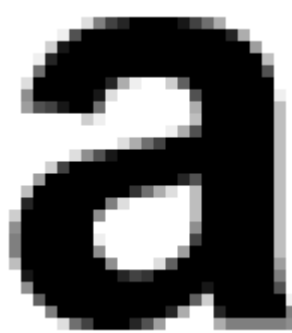
$W_S$  = stroke width  
 $S$  = denominator of Snellen acuity score (e.g., Snellen acuity = 20/40;  $S = 40$ )  
 $d$  = reading distance  
 $H_L$  = letter height  
 $R$  = stroke width-to-height ratio of the font, expressed as a decimal proportion (e.g., ratio of 1:5,  $R = 0.2$ )

Use either centimeters or inches as the units of measure for the reading distance, letter height, and stroke width.

## 8.1.3 Aliasing

Aliasing is a term used to describe the jagged effect when text or images are presented at a low screen resolution. Fonts that are intended for print often look jagged on a computer display.

Anti-aliasing reduces the jagged effect by blending the edges of the letter with the background color. This more gradual change in color visually smooths the edges of the text, as shown in Figure 57.

**Figure 57: Examples of aliased and anti-aliased text (enlarged to show detail)***Aliased Text**Anti-aliased Text*

**Req. 6: All text with a height greater than 4mm (0.16 inches) shall be aliased.**

Anti-aliasing improves the look of larger fonts. Programs should consider applying anti-aliasing (smoothing) to larger fonts, all headers, titles, field and button labels, or other stable typographic elements of the user interface.

**Req. 7: If anti-aliasing is used, it shall only be applied to fonts with a height greater than 4mm (0.16 inches).**

On small type (less than 4mm/0.16n), anti-aliasing reduces the contrast between the character and the background, making the character lighter and difficult to read. Anti-aliasing on may also make segments of the character disappear into the background.

## 8.1.4 Annotation Font

Image annotation resides inside image display view ports. It is recommended to use Courier as the display and annotation font.

The Courier font is recommended because the style of the font makes a clear distinction between an upper-case “l” (eye), a lower-case “l” (ell), and the digit “1”.

**Figure 58: Sample of Courier**

```

ABCDEFGHIJKLMN OPQRSTUVWXYZ 1234567890
abcdefghijklmnopqr stuvwxyz 1234567890

```

## 8.2 Font Specifications for Languages Other than English

The following details recommendations for other languages, including languages that do not use the Latin alphabet. Items listed in the recommendations sections require regional usability testing to verify that they meet readability requirements for the end-user population.

The specifications listed in this section only apply to the user interface of products intended for international markets. These specifications do not cover requirements for printed documentation.

Language requirements for products are determined by the product’s PRD.

User interface designs intended for use in global markets should be capable of supporting multi-byte characters.

The following table summarizes the recommended fonts listed in this section.

**Table 49: Recommended fonts by character set or alphabet**

Character set/ Alphabet	Font(s)
Japanese	<ul style="list-style-type: none"> <li>▪ MS UI Gothic</li> <li>▪ MS Mincho</li> </ul>
Chinese	<ul style="list-style-type: none"> <li>▪ Chinese simplified (gb2312) Simsun</li> <li>▪ AR PL SungtiL GB</li> <li>▪ AR PL KaitiM GB</li> <li>▪ Chinese traditional (big5) MingLiU</li> <li>▪ AR PL Mingti2L Big5</li> <li>▪ Song (provided with Windows for MS Office applications)</li> <li>▪ Fang Song (provided with Windows for MS Office applications)</li> </ul> <p><b>NOTE:</b> For products that meet DICOM standards, also refer to the “Chinese and Unicode” information on the GCC DICOM standards Support Central website: <a href="http://supportcentral.ge.com/products/sup_products.asp?prod_id=22280">http://supportcentral.ge.com/products/sup_products.asp?prod_id=22280</a></p>
Korean	Gulim
Cyrillic alphabet	Helvetica Cyrillic

## 8.2.1 Spacing Considerations

When designing products that may be translated into foreign languages, designers should take into consideration the vertical and horizontal space that may be needed for character display. Expansion of text, both vertically and horizontally, should be considered when planning screen real estate. See Table 50 for horizontal expansion recommendations.

**Table 50: Recommended horizontal expansion allowance**

Number of characters in English	Average horizontal expansion space for translation
1-10	200-300%
11-20	180-200%
21-30	160-180%
31-50	140-160%
51-70	131-140%
70 and over	130%

Short words or phrases carry the largest risk of needing more space when translated. Many languages have longer words than English, use multiple words, or add suffixes and prefixes. In longer blocks of text, the differences in the number of characters per word tend to average out.

The following table is an example of single English words translated into four languages.

**Table 51: Example of translation expansion**

<b>English</b>	trim	examine
<b>Spanish</b>	eliminación de bordes	escudriñe
<b>French</b>	effacement de bords	pour scruter
<b>Italian</b>	regolazione bordi	la scansione
<b>Danish</b>	kantbeskæring	Onderzoekende blik



## 8.2.2 Asian Fonts Requirements

**Req. 4160:** The user interface shall support configurability of fonts in order to support multiple Asian languages/character sets.

“Configurability” means that the product should be able to display different Asian languages depending on the intended market. For example, the product should be able to display Japanese characters when the intended users are in Japan and the product should also be able to display Chinese characters when the intended users are in China.

~~Req. 4162: A minimum font size of 12 point shall be used for Asian font types.  
(This requirement is removed from V6 because font sizes for any language shall be at least 3mm in height on screen, per Req. 5.)~~

Asian fonts should not be anti-aliased (smoothed). Anti-aliasing could diminish the readability of subtleties in the glyph, thereby affecting correct interpretation of the text.

**Req. 4164:** Products that transliterate Asian characters into a Latin-based alphabet shall follow the specifications described in sections 8.1—0.

Transliteration is representing letters or words in the corresponding characters of another alphabet. For Asian languages, this means to transcribe the words or sounds into a Latin-based alphabet using a standardized system.

## 8.2.3 Cyrillic Font Recommendation

Applications that use the Cyrillic alphabet should use a sans-serif font that supports the Cyrillic characters. The recommended font is Helvetica Cyrillic.

All other specifications described in sections 8.1—0 apply.

## 8.3 Capitalization

Correct capitalization helps readers identify important words and breaks in text. Using all capital (upper case) letters or all lower case letters greatly reduces the amount of variation the eye perceives, thus reducing the readability of the information.

**Req. 8:** In English language applications, capitalization shall follow the Capitalization Guidelines as indicated in Table 52.

Table 52: Capitalization Guidelines

Definition	When Used	Examples
<b>Title Capitalization</b>		
Capitalize the first letter of all words except for <ul style="list-style-type: none"> <li>▪ articles (a, an, the);</li> <li>▪ coordinate conjunctions (and, but, or, nor, for);</li> <li>▪ prepositions of four letters or fewer (at, with, into).</li> </ul>	Used for short labels and commands (5 words or fewer): <ul style="list-style-type: none"> <li>▪ Button labels</li> <li>▪ Icon labels</li> <li>▪ Tab titles</li> <li>▪ Title bar text</li> <li>▪ Tooltips</li> <li>▪ Menu names and menu items</li> <li>▪ Column headings</li> <li>▪ Palette titles</li> <li>▪ Toolbars and Toolbar button labels</li> <li>▪ Checkbox labels</li> <li>▪ Group box labels</li> <li>▪ List box entries</li> <li>▪ Combo box labels</li> <li>▪ Radio button labels</li> <li>▪ Text box labels</li> </ul>	<ul style="list-style-type: none"> <li>▪ Insert Object</li> <li>▪ Paste Link</li> <li>▪ Save As</li> <li>▪ Go To</li> <li>▪ Always on Top</li> <li>▪ By Name</li> </ul>
<b>Sentence-style capitalization</b>		
Only capitalize the first letter of the initial word and other words normally capitalized in sentences, such as proper nouns.	Used for long text strings (more than 5 words): <ul style="list-style-type: none"> <li>▪ Messages</li> <li>▪ Status bar text</li> <li>▪ Labels longer than 5 words</li> </ul>	<ul style="list-style-type: none"> <li>▪ You must select the protocol before an exam can begin</li> <li>▪ Remove patient identification when sending to this network host</li> </ul>

For all other situations not listed above, capitalize the text that best fits how the items are used. Apply the capitalization consistently within the situation in question.

Figure 59: Example of Title capitalization

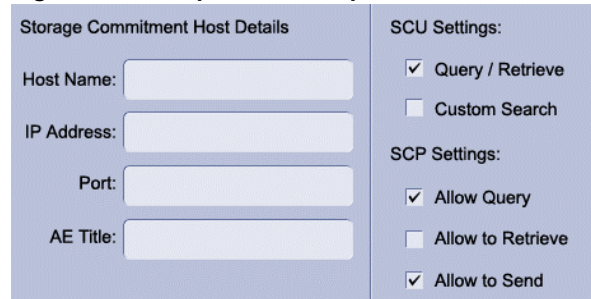
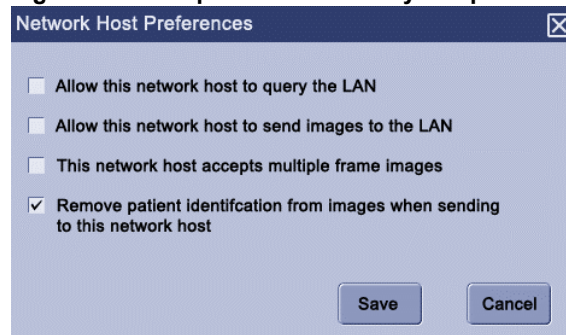


Figure 60: Example of Sentence-style capitalization



For the capitalization for languages other than English, contact the local business' translation resources.

**Req. 9: If the user enters a name for an object, the capitalization of the user-supplied name shall be maintained as entered, unless the platform does not preserve the capitalization of user-supplied names.**

Examples of objects for which a user might supply a name include: a file, a directory, a network node, or an exam.

The capitalization of the user-supplied name should be maintained wherever the name appears, including the title bar of a window.

## 9 Icons

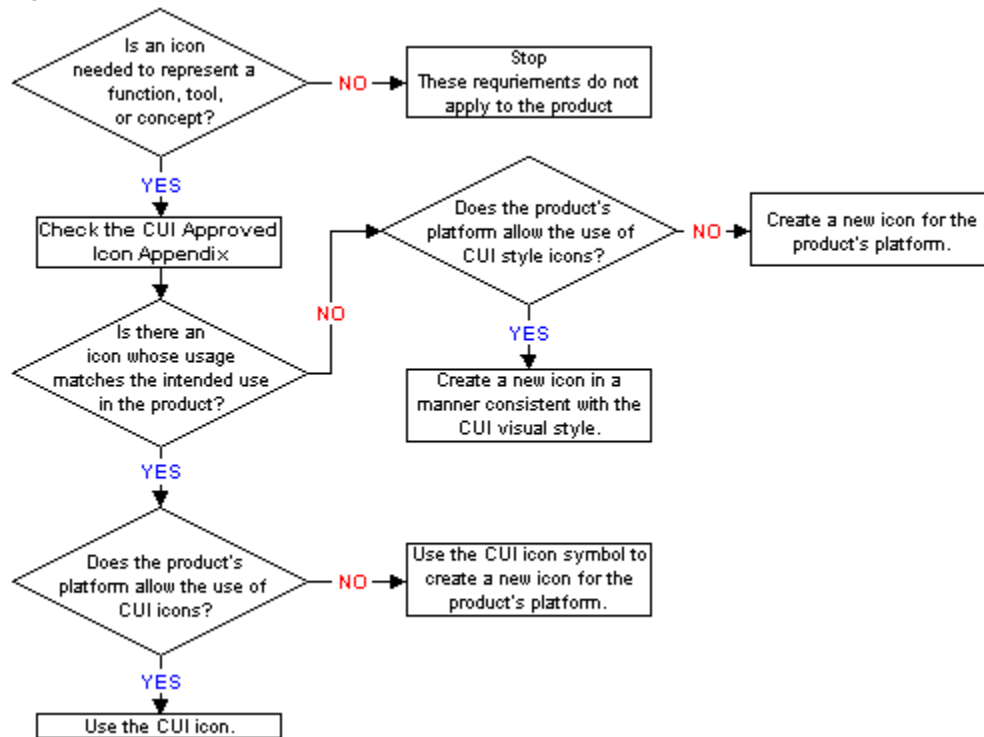
The Common User Interface icons are intended to enrich the user interface and be instrumental in conveying a meaningful message.

### 9.1 CUI Approved Icons and Symbols

The CUI-approved icons have been tested globally for usability and understanding. When possible, use the CUI approved icons.

Req. 73: The Icons Decision Workflow, shown in Figure 61, shall be used to determine the style of icons that are used in the product.

Figure 61: Icons Decision Workflow



It is recommended that programs use icons that match the symbol and color of the CUI icons from the Icon Database. Applications may use operating system supplied icons only if the supplied icons use the same symbols and colors as the CUI icons.

However, if the operating system supplied icons use different symbols or colors than CUI icons, icons selected from the list of CUI approved icons are to be used.

This recommendation applies to all icons used in the interface, including Message Boxes (p. 166) and Ancillary System Status (p. 27).

**Req. 4180: A CUI-approved icon shall only be used to represent functions that are defined in section Appendix A: CUI Approved Icons.**

Appendix A: CUI Approved Icons lists all of the icons currently approved for CUI use, along with the appropriate labels and descriptions of their usage.

Contact an IDG/CUI Representative for the icon image files.

## 9.2 Icon Style

Refer to the CUI Icon Style document for information about creating icons in the CUI style.

The Icon Style document can be found on MyWorkshop and at the Support Central - Global Design-Common User Interface (CUI) website:

[http://supportcentral.ge.com/products/sup\\_products.asp?prod\\_id=15917](http://supportcentral.ge.com/products/sup_products.asp?prod_id=15917)

**Req. 8331: Icons shall have a transparent background.**

~~Req. 75: Icons shall use the appropriate CUI icon color palette for their color depth and status.~~

(This requirement is removed from V6 because all icons now use one palette. The disabled state is created by changing the transparency of the enabled icon, not by changing the palette. Creating the disabled state is covered in the Icon Style document linked to above.)

# 10 Identity and Branding

GE Healthcare products are branded on the product exterior and within the product software, as described in the following sections.

Refer to the following web sites and documents for the latest Corporate and GE Healthcare branding standards:

GE Healthcare Branding site:

<http://gein.med.ge.com/branding/index.html>

GE Healthcare Product and Packaging Guidelines (PDF):

<http://gein.med.ge.com/branding/downloads/GEHealthcareProductBrand.pdf>

(Splash Screen graphics are specified in sections 6.12-6.14, pages 71-73.)

GE Corporate Brand Central:

[http://www.gebrandcentral.com/brand/design\\_library/](http://www.gebrandcentral.com/brand/design_library/)

## 10.1 On the Product Exterior

**Req. 14: If there is no branding on the hardware, GE Branding shall be included on the software.**

If the software does not have graphical splash screen, product name and Monogram, please contact an IDG/CUI Representative to balance hardware and software branding.

OEM (Original Equipment Manufacturer) products may acquire an exemption from this first branding requirement. Exemption will be determined on a case-by-case basis after consultation with Global Design.

## 10.2 Within the Product's Software

Proper branding on our products is very important. Great care must be taken to provide sufficient branding on products, software, and hardware without overwhelming the user.

**Req. 8880: GEHC software shall show branding through at least one of the following:**

- 1) Authentication Screen,**
- 2) Splash Screen,**
- 3) About Box,**
- 4) Combinations of 1-3,**
- 5) All of 1-3**

Refer to the Common Logon – User Interface Requirements Specification for details regarding display of information on the Authentication Screen.

Req. 15: GEHC software shall be branded with at least one of the following: Splash Screen, Logon screen, About Box, or branding styles defined in section 11.2.1 Preferred CUI Branding Format.

(This requirement is removed from V6 because of changes to the corporate branding standards.)

## 10.2.1 Title Bar Branding

Req. 16: If a Windows-based product has a Title Bar, then Title Bars and Title Bar text shall be implemented as defined in Microsoft's User Interface Design and Development, Windows Interface Components:

<http://msdn.microsoft.com/library/default.asp?url=/library/en-us/dnwue/html/ch07c.asp>

## 10.2.2 Background Branding

On a PC, the background is the screen you see after logon. It is the image that is beneath your desktop icons.

Systems that control the desktop background (wallpaper) may use the following approved CUI desktop image shown in Figure 62.

The background should be P9 and the Monogram in the lower left corner should be P5.

Contact an IDG/CUI Representative for the image.

**Figure 62: Example of the Desktop Image**



# 11 Splash Screen and About Box Content

The following sections describe the various content and types of information that is displayed on Splash Screens and About Boxes. Some of the listed items are optional or only apply to specific types of screens.

See the specific section to determine what is required and appropriate for that screen. Section 11.16 Splash Screen and About Box Content Summary (p. 140) summarizes the required content and where it is to be displayed.

## 11.1 GE Monogram

The Monogram always appears by itself with the following spacing:

- At least  $\frac{1}{4}$  of the Monogram's diameter of space around all sides of Monogram.
- At least 1 of the Monogram's diameter of space between the Monogram and text

No company names, legal entities, or tag lines appear with the Monogram.

The only company name that appears on the Splash Screen graphic is "General Electric Company" included in the copyright phrase.

## 11.2 Product Name Information

Product marketing determines the product name information. The formal product name information is included on the Splash Screen and About Box.

For the latest information on product naming, go to:  
<http://gein.med.ge.com/branding/trademark2.html>

Product name information consists of the following name types:

- Product Brand Name (GE Inspira font, bold)
- Product Model (GE Inspira font, plain)
- Product Descriptor (GE Inspira font, italic)

The Splash Screens or About Boxes may show any of the following combinations of product name types:

- Product Brand Name only
- Product Brand Name and Product Model
- Product Brand Name, Product Model, and Product Descriptor.

Each product name type appears on its own line. The Product Brand Name always appears on top, followed by the Product Model, then the Product Descriptor.



## 11.3 Trademarks

A trademark is the legal mechanism for protecting a product brand name.

GEHC product brand names should be trademarked according to standard GE procedures. Contact the marketing representative for the product to determine if the trademark is registered.

For the latest trademark procedures, go to:

<http://gein.med.ge.com/branding/trademark2.html>

**Req. 8878: If the Product Brand Name is trademarked, the Splash Screen and About Box shall display the ™ symbol.**

**Req. 8879: If the Product Brand Name is registered, the Slash Screen and About Box shall display the ® symbol.**

The ™ or ® symbol is placed immediately after the Product Brand Name (no space between) in super-script. The ™ symbol is in small caps.

If the application cannot produce super-script characters on a text-only Splash Screen or About Box, the ™ or ® symbol may be placed in normal text but with a space between the name and the symbol. The letters “TM” must be enclosed by parenthesis.

- Product Brand Name (TM)
- Product Brand Name ®

## 11.4 Copyright

Copyright is a form of protection provided by the laws of the United States (title 17, U.S. Code) to the authors of “original works of authorship,” including literary, dramatic, musical, artistic, and certain other intellectual works.

The legal mechanism for protecting original works of authorship

All GEHC applications are copyrighted. Contact the Legal Counsel for more information.

**Req. 22: All GEHC applications shall use the following phrase to communicate copyright:  
© [year] General Electric Company - All Rights Reserved**

The year specified above is the “creation date.” The creation date is the year when the ME milestone was completed. The year is expressed in four-digit format, e.g., 2006.

If the Splash Screen or About Box uses a graphic, the copyright phrase is placed below the graphic and centered.

If the Splash Screen or About Box is text only, the copyright phrase is placed as the first item after the product name information and left-aligned with the product name information.

## 11.5 Intellectual Property / Third-party Software Credits

Credit for third-party software is a legal acknowledgment as agreed to by contract between our company and third party applications. It is used within the GEHC application if there is a contractual responsibility to display it.

All programs using third-party intellectual property (software, fonts, etc.) must verify that contractual requirements for identifying the third-party intellectual property are met. Contact an IDG/CUI Representative to help integrate elements needed when giving credit to third-parties.

All programs need to contact the Intellectual Property Counsel to ensure proper display of legal and contractual requirements.

IDG has been informed by the legal department that Legal (Intellectual Property) Counsel needs to review all presentation of GE and other's identities on the product. Programs must identify any open source code (whether under license or not) and get the approval for its inclusion from the Intellectual Property counsel.

## 11.6 Software Version

All products should display the version number in a place accessible to the user. The preferred placement of version information is in the About Box. However, if the application does not have an About Box function, the information should appear in a Detailed Splash Screen.

## 11.7 Licensing Information

Licensed software requires the product serial number or other licensing information to be displayed on a Detailed Splash Screen or About Box.

## 11.8 Software Contributors

Third-party software contributors (not GE employees) may be included on Detailed Splash Screens or About Boxes if there is a contractual obligation to do so.

## 11.9 Close Button

About Boxes must have a way to close the box. Use a CUI style button for this function.

## 11.10 Progress Bar

Detailed Splash Screens and text only Splash Screens may display a progress bar to indicate how far much longer it will take to start the application.

## 11.11 Contact Information

Detailed Splash Screens and About Boxes may display contact information for the application such as customer service or technical support phone number, applicable website URLs, a mailing address, etc.

## 11.12 System Information

Detailed Splash Screens and About Boxes may include a link or button that displays information on the current system configuration. System information includes, but is not limited to, amount of disk space, operating system, amount of RAM, and processor.

Links to system information are optional and are included as appropriate for the product.

## 11.13 GE Employee Credits

Displaying GE employee credits on Splash Screens and About Boxes is prohibited.

## 11.14 Disclaimer

Disclaimers do not appear on the software user interface.

Disclaimers are the responsibility of those who create the documentation (e.g., user manual) for the product. Documentation should be reviewed by SRE (and possibly Legal) to ensure that the appropriate disclaimers are included.

The following is a standard disclaimer that is placed in the user manual:  
"GE Healthcare reserves the right to make changes in specifications and features shown herein, or discontinue the product described at any time without notice or obligation."

## 11.15 European Commission (CE) Mark

**Req. 40:** The CE (European Commission) mark shall not be displayed on the product graphical user interface.

If required for the product, the CE mark is displayed on physical hardware labeling. Contact the Safety and Regulatory representative for the product to determine the requirements for placing the CE mark on hardware.

For information on the CE mark, go to:

<http://www.ce-mark.com/>

## 11.16 Splash Screen and About Box Content Summary

The following table lists all the content that is included on Splash Screens and About Boxes and where that content is displayed.

Key:

n/a = Not applicable

\* = Element may be included in a graphic

† = Element must be included in a graphic

**Table 53: Splash Screen and About Box content**

Content Type	Where Displayed				
	Graphical Splash Screen	Detailed Splash Screen	Text Only Splash Screen	About Box	Text Only About Box
GE Monogram	Required†	Required†	Optional	Required†	Optional
Product Name Information	Required†	Required*	Required	Required*	Required
Copyright	Required	Required	Required	Required	Required
Trademark symbol or Registered Trademark symbol	Required†	Required*	Required	Required*	Required
Close button	n/a	n/a	n/a	Required	Required
Software version	n/a	Optional	Optional	Required	Required
Intellectual property or third-party credits Contact the Intellectual Property Council to determine if display of this information is required.	n/a Use a Detailed Splash Screen if this information is required.	May be required Place credits in text below the graphic if required.	May be required	May be required Place credits in text below the graphic if required.	May be required

Content Type	Where Displayed				
	Graphical Splash Screen	Detailed Splash Screen	Text Only Splash Screen	About Box	Text Only About Box
Licensing information	n/a	May be required	n/a	May be required	May be required
Software contributors (not GE employees)	n/a	May be required	n/a	May be required	n/a
Progress bar	n/a	Optional	n/a	n/a	n/a
Contact information	n/a	Optional	n/a	Optional	Optional
System information link(s)	n/a	Optional	n/a	Optional	Optional
Disclaimer	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited
GE employee credits	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited
European Commission (CE) Mark	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited

## 12 Graphical Splash Screens

A Splash Screen is the initial screen that identifies the application that is loading. See section 13.1 Text Only Splash Screens and About Boxes (p. 147) if the product cannot use a graphical Splash Screen.

- Req. 3791:** Graphical Splash Screens shall display the following:
- 1) GE Monogram,
  - 2) Product name information (with <sup>TM</sup> or ® after the Product Brand Name),
  - 3) Copyright date
- Req. 53:** Applications without a Splash Screen or an About Box shall contact an IDG/CUI Representative to ensure that the communication intent of these screens are met through alternative solutions.

Splash Screens inform users about the application being launched. Splash Screen content is specified by this standard and shall be used for all GEHC Splash Screens. Contact an IDG/CUI Representative for assistance with your Splash Screen. Deviations from the defined Splash Screen specifications require approval from an IDG/CUI Representative.

The content of the Splash Screen is defined in Table 54 Splash Screen Content (p. 143). The final design will be reviewed and approved by an IDG/CUI Representative.

Product marketing determines the product name. Consult product marketing to determine which name types should appear on the Splash Screen.

- Req. 17:** Applications with Graphical Splash Screens shall include the Required items from Table 54.

**Figure 63: Example of a graphical Splash Screen**



Table 54: Splash Screen Content

Item	Status	Notes
Product name information	Required	Must have at least the Product Brand Name. Other name elements are included as determined by marketing.
Trademark <sup>™</sup> or Registered Trademark <sup>®</sup>	Required	Placed after Product Brand Name.
GE Monogram	Required	No other graphics, company names, or taglines allowed.
Colored vertical bar	Required	Same color as text and Monogram.
Copyright	Required	Placed below graphic and centered.

Req. 4070: Text that is displayed in the Splash Screen graphic shall not be translated.

## 12.1 Graphical Splash Screen Composition

Graphical Splash Screens contain the following elements:

- Product name information
- GE Monogram
- Vertical colored bar on right edge – bar is approximately  $\frac{1}{4}$  of the splash screen width and full height of the splash screen
- White (P1) background behind Monogram and product name information
- Black (P11) 0.7mm (2 pixel) border around the outside of the splash screen
- Copyright phrase (placed below the actual graphic)

The Monogram, colored bar, and product name information are the dark blue from the branding “Bright” color palette. Color codes are: R=65, G=87, B=173, or Hex # 3E57AD.

The product name information and the Monogram are left-aligned. It is preferred and recommended that all text on a Splash Screen or About Box be left-aligned when possible.

The size of the graphic and elements may be changed to fit the monitor or area. Splash Screens should be tested on all anticipated resolutions and color depths to ensure their effectiveness.

The graphic may be used alone or placed within a window or other background.

## 12.2 Low-Lighting Variation

If the software is used in a low-lighting environment, the light background behind the Monogram and product name information may be changed to P2.2. If placed on a window, the window color is P9.

**Figure 64: Graphical Splash Screen for low-lighting**



## 12.3 Detailed Splash Screens

Examples of information (outside of Graphical Splash Screen information) that may be presented on a Detailed splash screen include (but are not limited to):

- Credits for third-party intellectual property. (Contact the Intellectual Property Council to determine if credit is required.)
- Credits for contributors to the software (not GE employees).
- Progress bar
- Contact information
- Software version number

**Req. 28:** Applications that need to display general information during launch shall add the information in an area below the Splash Screen graphic image.

**NOTE:** Detailed information below the copyright phrase may be placed in any configuration. Figure 65 shows just one example of a possible layout.



Figure 65: Example of a Splash Screen with additional detailed information



## 13 About Boxes

About Boxes are dialog boxes that are included in applications to provide users with a variety of information regarding a running application.

Not all applications have About Boxes. About Boxes are common on applications built for the PC. If your application does not have About Box, the CUI initiative does not require that you develop one.

Program teams should consult an IDG/CUI Representative when creating About Boxes for their products.

The content of About Boxes should be kept to a minimum. About Boxes should not be a substitute for information that has been historically located in the user manual, user guides, or product nameplate.

**Req. 38:** User access to the About Box shall be located under the “help” menu or “help” button.

**Req. 8730:** About Boxes shall include the Required items from Table 55.

**NOTE:** About Box information below the copyright phrase may be placed in any configuration. Figure 66 shows just one example of a possible layout.

**Figure 66: Example of an About Box**



**Table 55: About Box Content**

Feature	Status	Notes
Product name information	Required	May be included on Splash Screen graphic.
Trademark <sup>™</sup> or Registered Trademark <sup>®</sup>	Required	May be included on Splash Screen graphic.
GE Monogram	Required	Included on Splash Screen graphic.
Colored vertical bar	Required	Included on Splash Screen graphic.
Copyright	Required	Placed below Splash Screen Graphic and centered.
Software version	Required	As appropriate to the product.
Licensing information	Required for licensed software	As appropriate to the product.
Close button	Required	Use CUI standard Command button.
Credit for third-party software	May be required, depending on contract	Contact the Intellectual Property Council to determine if credit is required.
Contact information	Optional	
Links to system information	Optional	

About Boxes may use a vertical scroll bar when additional space is required.

- Req. 45:** About Boxes that use a graphic shall use the Splash Screen graphic.
- Req. 48:** About Box information shall be translated to match the language of the application. (Text embedded in the Splash Screen graphic is not subject to this requirement.)
- Req. 49:** About Boxes shall have a “close” button.

## 13.1 Text Only Splash Screens and About Boxes

Some products do not permit the use of graphic images for Detailed Splash Screens, or About Boxes.

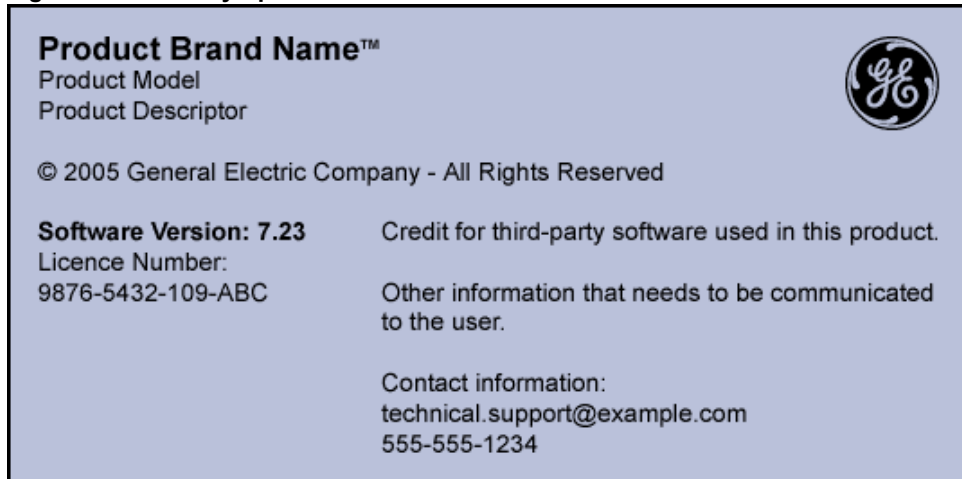
For example: One application is used on multiple scanner models. The application does not know on which model it is running; therefore it cannot display a graphic that identifies the model on the Splash Screen or About Box. See Figure 67 and Figure 69.

Program teams should consult an IDG/CUI Representative when implementing detailed Splash Screens or About Boxes that do not have graphics.

If the Monogram cannot be displayed due to technical constraints of the software, the Monogram may be left off text only Splash Screens and About Boxes. Work with an IDG/CUI Representative to ensure that branding requirements are met.

The Monogram, if shown, is the same color as the text. Text and Monogram are P11 (black).

**Figure 67: Text-only Splash Screen**



**Figure 68: Text only Splash Screen for low-lighting**

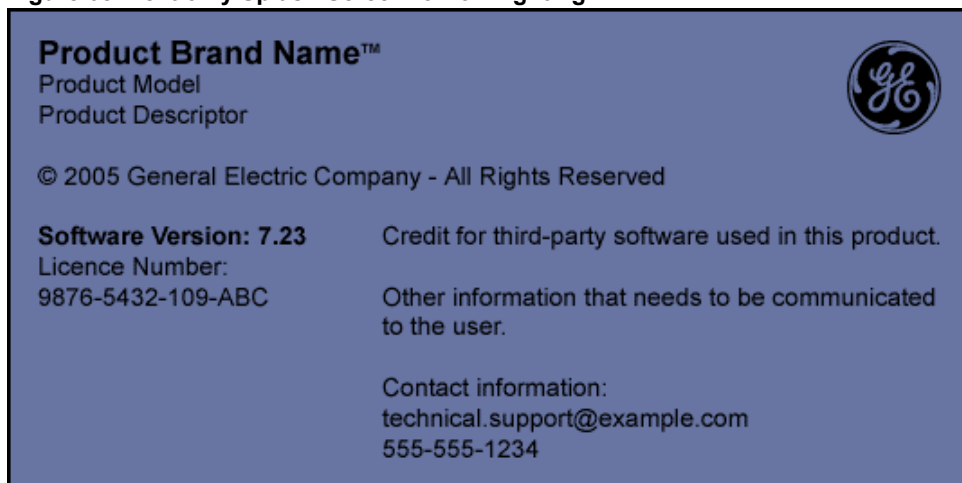


Figure 69:Text only About Box



## 13.2 Logon Screens

Logon screens are defined as a common application. They are specified in the GEHC/GEHC-IT Common Logon - User Interface Requirement Specification (CL-UIRS), document number DOC0042207. The CL-UIRS is available via MyWorkshop, and Support Central.

Common Logon MyWorkshop location:

<http://gemselib.med.ge.com/ematrix/documentcentral/eLibDocument.jsp?name=DOC0042207&rev=1>

# 14 Basic UI Guidelines

## 14.1 Goals of the Basic UI Guidelines

The goal of these guidelines is to provide our products' users with consistent interactions when using GEHC products.

The guidelines listed have been extracted from numerous user interface references and from experts in the field and validated through our own testing. See section 16 Bibliography and References (p. 178) for sources.

These rules are not all-inclusive. These rules only provide a starting point in helping our users to have a consistent experience when using our products.

## 14.2 Scrolling

Horizontal scrolling in general should be avoided. It is acceptable to have limited uses of horizontal scrolling when presenting linear data such as waveforms or time-lines.

While vertical scrolling is common and necessary, horizontal scrolling places an additional burden on the user.

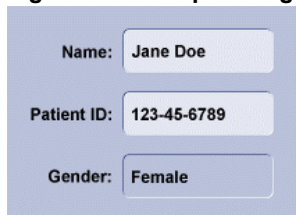
## 14.3 Labels and Text Fields

**Req. 4773:** When data entry fields are stacked vertically, they shall be aligned by their left edges.

**Req. 54:** If multiple data entry fields are stacked vertically and the label appears on left of the data entry fields, the labels shall be right aligned (that is, aligned on the colons), as shown in Figure 70.

Label text is right-aligned to provide a close association between the label and the field. Left-aligned labels create a large "gutter" between labels and fields, especially when label length is variable. The gutter makes it difficult to associate labels with their fields.

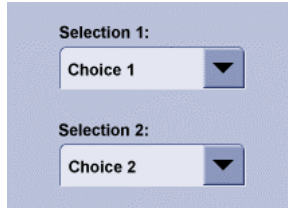
**Figure 70: Example of right-aligned field labels**



The image shows a screenshot of a user interface form with three stacked data entry fields. Each field has a label on the left and a text input field on the right. The labels are right-aligned to the colons. The first field is labeled 'Name:' with the value 'Jane Doe'. The second field is labeled 'Patient ID:' with the value '123-45-6789'. The third field is labeled 'Gender:' with the value 'Female'.

- Req. 8860: If multiple data entry fields are stacked vertically and the label appears above the data entry fields, the labels shall be aligned on the left edge of the field, shown in Figure 71.

Figure 71: Example of label placed above a field



Positioning labels above fields is not recommended if a window or dialog consists of a large number of data entry fields positioned closely together. With many fields in view, the screen is more readable if the labels are positioned left of the fields.

- Req. 55: Icons shall be identified by a text label, a tooltip, or both.

Users must be able to discover the meaning of an icon. The preferred method is to have a static text label below or to the right of the icon image (as shown in Figure 72). If the icon cannot be labeled with text, a tooltip on mouseover is acceptable (as shown in Figure 73). Both methods may be used on an icon (as shown in Figure 74).

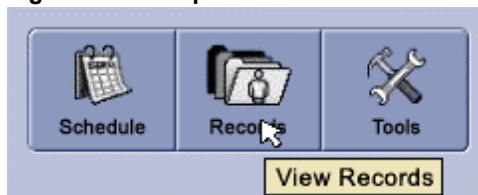
Figure 72: Example of icons identified with labels



Figure 73: Example of an icon identified with a tooltip



Figure 74: Example of an icon identified with both a label and a tooltip



## 14.4 Text Alignment

Text displayed in a text field is aligned according to data type or by the convention of the language used on the interface. Typically, alpha-numeric data is left aligned, numeric data is aligned based on type of data used (e.g., right aligned, aligned on decimal point, etc).

**Figure 75: Example of numerical data and text aligned tables**

Header A	Header B	Header C	Header D	Header E
File Folder	7 KB	33,000	154.50	1,854.50
Adobe Photoshop	30 KB	12,000	265.33	20,650.33
Microsoft Excel	300 KB	2,200,000	200.00	1,200.00
Microsoft Word	500 KB	3,000	10.00	100.00
Microsoft Excel	1,000 KB	24,802	0.25	0.25
File Folder	1,200 KB	45,220	550.50	550.50

## 14.5 Text Orientation

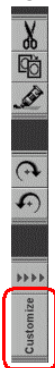
Orienting text horizontally is preferred for languages that are normally written horizontally. However, there are design situations where it is difficult to integrate normal horizontal text. It is acceptable to use vertically oriented text in certain situations.

- Req. 4735:** Vertically oriented text shall only be used in cases where space constraints make using horizontal text impossible.
- Req. 4734:** Horizontally oriented text shall be used to display critical information and in situations that require rapid word recognition.

Studies have shown that horizontally oriented text is faster and easier to read than vertical text (for languages whose normal orientation is horizontal).

Vertically oriented text may be used in the following situations: labels for functional areas (see Figure 78, p. 153), labels for vertical tabs, titles of vertical axis (in a graph), and (possibly) text on buttons (see Figure 76).

**Figure 76: Button with vertical label: this may be used in special cases**





## 14.5.1 Types of Vertically Oriented Text

There are three types of vertically oriented text, as shown in Figure 77:

- Marquee - where the letters remain upright but are stacked vertically
- Right-rotated - where the letters are rotated 90° clockwise
- Left-rotated - where the letters are rotated 90° counterclockwise

Figure 77: Types of vertically oriented text

**m**  
**a**  
**r**  
**q**  
**u**  
**e**

**r**  
**i**  
**g**  
**h**  
**t**  
**r**  
**o**  
**t**  
**a**  
**t**  
**e**

**l**  
**e**  
**f**  
**t**  
**r**  
**o**  
**t**  
**a**  
**t**  
**e**

**Req. 4746:** Marquee text shall only be used if it is necessary to accommodate local language conventions, i.e., Chinese, Korean, and Japanese.

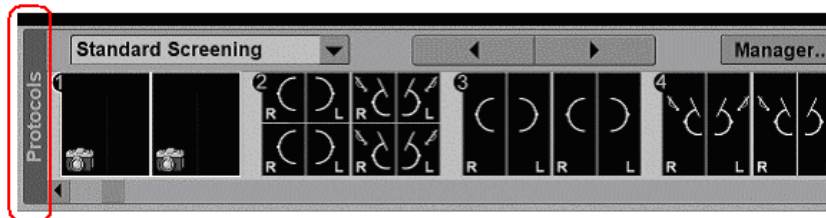
It takes nearly twice as long to read marquee text than to read horizontal text in most languages, with a few exceptions. Moreover, marquee text takes much more space than rotated text (in most fonts).

## 14.5.2 Guidelines for Vertically Oriented Text

An IDG/CUI Representative should be consulted when implementing vertically oriented labels.

- Whenever vertically oriented text is displayed, it should be rotated. Rotated text is easier to read and requires less space than marquee text.
- A vertically oriented label should point at something. The base of the letters should be near the controls it is identifying. For example, if the label refers to something that is displayed on its right, then left-rotated text should be used. See Figure 78.
- Vertically oriented labels should be concise, clear, and consistent. Keep the label as short as possible; vertical sentences are difficult to read.
- Vertically oriented labels should be easily recognizable. As it is not natural to read vertically, make sure the text is easy to recognize. Test them with users.
- Vertically oriented labels for group boxes should be centered (see Figure 78).

Figure 78: Group box with left-rotated vertically oriented label. Label is centered in area.



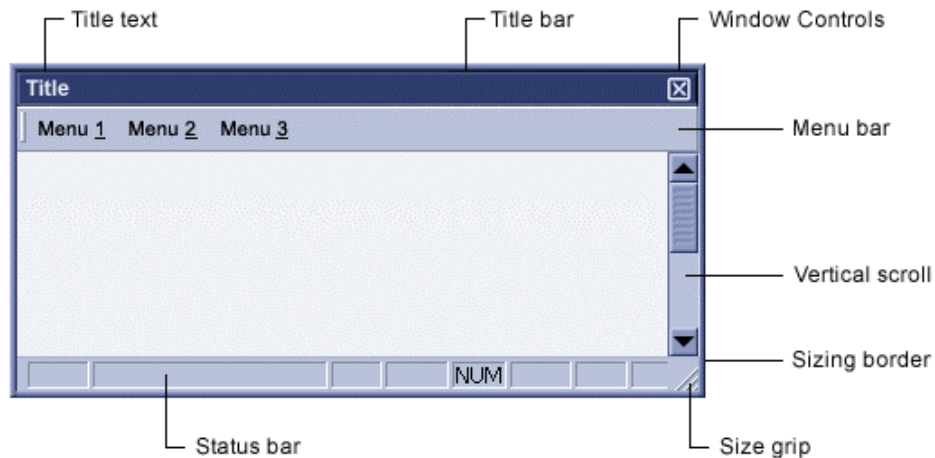
## 14.6 Windows

Windows provide the fundamental way a user views and interacts with data. Consistency in window design is particularly important because it enables users to easily transfer their learning skills and focus on their tasks rather than learn new conventions. This section describes the common window types and presents guidelines for general appearance and operation.

Because windows provide access to different types of information, they are classified according to common usage: primary windows and secondary windows. See section 14.6.8 Primary Windows (p. 157) and section 14.6.9 Secondary Windows (p. 157).

Regardless of category (primary or secondary) window appearance should be consistent across the application and any other programs on the workstation. If the product team cannot control the appearance of all applications, then the window appearance is controlled by the operating system.

**Figure 79: Example of a window with components labeled**



### 14.6.1 Window Frame

Every window has a boundary that defines its shape. A sizable window has a distinct border that provides control points (handles) for resizing the window using direct manipulation. If the window cannot be resized, the handles are not available and the border becomes adjacent with the edge of the window.

### 14.6.2 Title Bar

At the top edge of the window, inside its border, is the title bar, which extends across the width of the window. The title bar identifies the content of the window. It also serves as a control point for moving the window and an access point for commands that apply to the window and its associated view.

## 14.6.3 Title Text

The window title text identifies the name of the object being viewed in the window.

## 14.6.4 Scroll Bar

A scroll bar allows the user to view information when the window is not large enough to display all contents of the window. For more definition on how this control is to be used, please see section 7.9.1 Scroll Bar (p. 75).

## 14.6.5 Menu Bar

A window may contain a menu bar to offer actions the user can perform. For information on this control, please see section 7.10 Menus (p. 78).

## 14.6.6 Title Bar Icons and Controls

If supported by the platform, a primary window may include an icon. If the icon is used, it appears in the upper left corner of the title bar and it represents the application.

**Req. 14591: If the product team has complete control over the appearance of the entire application and workstation, then window controls in the title bar shall be implemented as needed.**

Window appearance should be consistent across the application and any other programs on the workstation. If the product team cannot control the appearance of all applications, then the window appearance is controlled by the operating system.

The Java PTK Toolkit has the flexibility to enable or disable window controls.

- The title area shown in Figure 80 has the minimum amount of controls enabled.

**Figure 80: Example of a window with minimum controls enabled**



- The title area shown in Figure 81 has all available controls enabled.

**Figure 81: Example of a window with all controls enabled**



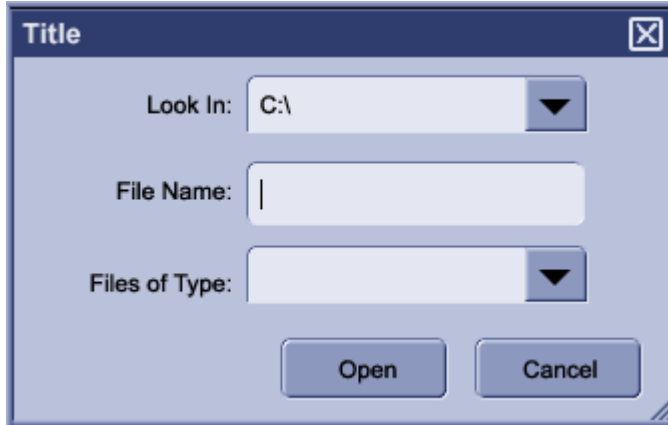
**Req. 12366: If the operating system does not provide a close button in the title bar, a close button shall be included within the window.**

## 14.6.7 Window Resizing

Some primary windows and certain secondary windows (e.g. dialog boxes) are resizable. This section specifies the visual indications and behavior for resizable windows.

See section 7.14.3 Resizing Grippers (p. 96) for general requirements regarding resizable objects.

**Figure 82: Window with resize gripper**

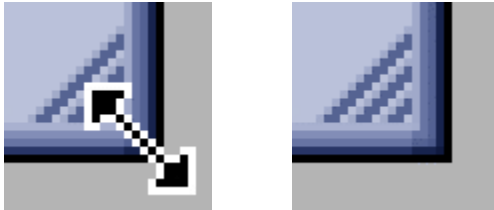


**Req. 12367:** If a window is resizable and the operating system is able to implement grippers, it shall have the window resize gripper displayed in the lower right corner of the window.

The gripper is shown in Figure 83. This applies to both primary and some secondary windows. For Microsoft Windows-based systems, this applies when the window is in the "Restore" state.

Message boxes or any window where the user has no interaction other than dismissal, acceptance, or acknowledgement should not be resizable.

**Figure 83: Window resize gripper with and without cursor (enlarged to show detail)**



**Req. 12370:** If a window is resizable, the mouse pointer shall change to a resize pointer when the user mouses over the window borders.  
(This requirement is removed from V6 because it has been combined with Req. 12369. See section 7.14.3 Resizing Grippers, p. 96.)

The change in cursor informs the user that the window is resizable. The resize mouse pointer indicates the direction of movement allowed: vertical, horizontal, or diagonal.

## 14.6.8 Primary Windows

The primary window is where most viewing, editing, and object interaction takes place.

A primary window consists of a frame (or border) which defines its extent, and a title bar which identifies what is being viewed in the window. If the viewable content of the window exceeds the current size of the window, scroll bars are used. The window can also include other components like menu bars, toolbars, and status bars.

The recommended primary window titling is as follows:  
(Icon) Application Name - File Name

**Req. 8861: Primary windows with title bars shall include a title to identify the window.**

It is recommended to have at least the application name in the title bar. The file name and an icon may also be used, but are not required. The format for titling primary and secondary windows is detailed in the following sections.

The text used to identify an object or file type should be consistent throughout the application. For example, if the file type is identified as Microsoft Word, the string "Microsoft Word" should always be used in the title bar text, not some screens using the string "Word" and other screens using "MS-Word".

The content of a program's windows will take on the CUI appearance.

**Figure 84: Window title bar**



## 14.6.9 Secondary Windows

A secondary window is a window created from (and dependent upon) a primary window or application. Secondary windows allow users to specify parameters or options, or to provide more specific details about the objects or actions included in the primary window. Examples of secondary windows are dialog boxes and message boxes.

There are two types of secondary window:

- A modeless window allows the user to interact with other applications or windows without closing the secondary window.
- A modal window requires the user to complete interaction with the secondary window before the user can interact with any other portion of the screen.

## 14.6.9.1 Appearance

**Req. 14592:** Secondary windows shall follow the same rules as the primary window in which it exists. They include a title bar and frame.

The recommended window titling and format is as follows:  
(Icon) Application Name – Secondary Window Title

Where “Secondary Window Title” may be one of several different types of information, including, but not limited to: object name, exam name, dialog box title, or case number.

The titling format should remain consistent throughout the application.

## 14.6.9.2 Behavior

It is recommended that secondary windows become minimized when the primary window is minimized and closed when the primary window is closed.

Avoid resizing a secondary window. However, a control that exposes additional window content or options may be implemented.

**NOTE:** The use of a ‘More’ button or any resizing device is prohibited in Message Boxes (see section, 14.6.9.4 Information, Caution, and Warning Message Boxes, p. 160).

## 14.6.9.3 Dialog Boxes

A dialog box is a secondary window (see section 14.6.9 Secondary Windows, p. 157) that provides an exchange of information between the user and the application. Use a dialog box to obtain additional information from the user that is needed to carry out a particular command or task.

It is recommended that dialog boxes be a different color than the main screen. This helps distinguish the newly appeared dialog from the parent screen.

- Screens using Standard Office Lighting palette should use P3 as the dialog box color.
- Screens using the Low-Lighting palette should use P7 as the dialog box color.

**Req. 56:** A dialog box shall evoke a maximum of two additional levels of dialog boxes. (That is, a dialog box shall not evoke more than two additional dialog boxes.)

~~Req. 57: Every dialog box shall contain a title.  
(This requirement is removed from V6 because the intent is covered in Req. 14584.)~~

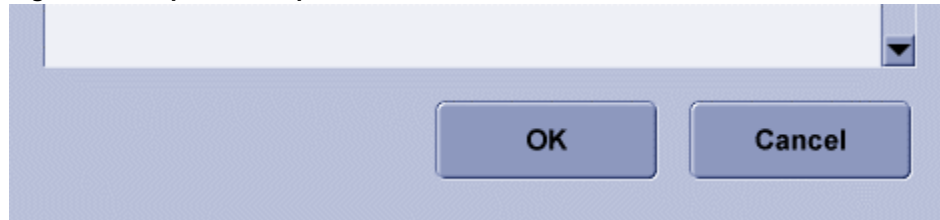
**Req. 4080:** Every dialog box shall contain a way to dismiss the dialog.

**Req. 59:** Primary command buttons in a dialog box shall be grouped and positioned at the bottom-right of the dialog box.

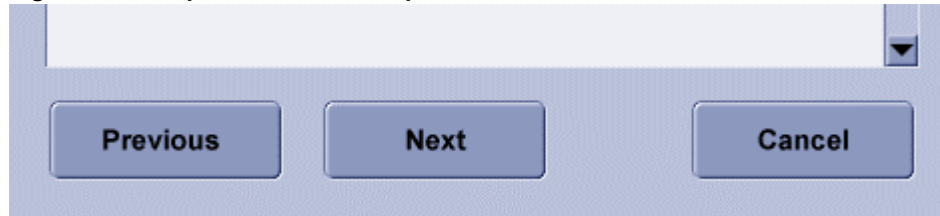
- Req. 60:** Within the primary button grouping, the button that enables the user to successfully complete the task shall always be positioned first (above or to the left), with the exception of navigation buttons (previous/next), as shown in Figure 85 and Figure 86 or if the operating system controls the button placement.

This exception is to avert the counter-intuitive button placement of seeing the “next” button on the left, and the “previous” button on the right.

**Figure 85: Proper button placement**



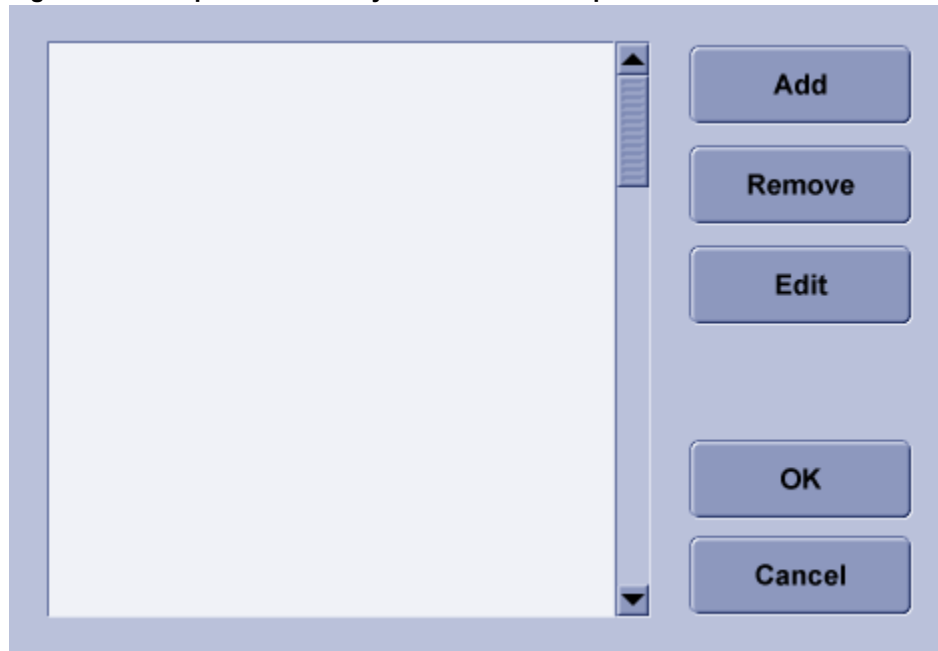
**Figure 86: Exception to the button placement**



- Req. 61:** Within a dialog box, secondary command buttons shall be used if the process requires a secondary level in the hierarchy of a task.

Secondary buttons enable the user to perform actions on a specific and distinct portion of the object or UI environment (e.g., add, edit, remove, update, reset, etc.) These secondary buttons enable the user to perform an intermediate change on part of the object or UI environment before enacting a critical change (exit, etc.).

- Req. 62:** Within a dialog box, secondary command buttons shall be stacked along the right edge, as shown in Figure 87.
- Req. 63:** Within a dialog box, secondary command buttons that enable the user to perform opposite actions (e.g., add/remove, update/reset) shall be grouped according to function, as shown in Figure 87.
- Req. 4085:** Within a group of secondary command buttons in a dialog box, the positive action (e.g., add) shall be positioned before the negative action (e.g., remove), as shown in Figure 87.

**Figure 87: Example of secondary command button placement**

#### 14.6.9.4 Information, Caution, and Warning Message Boxes

A Message Box is a Secondary window that provides information about a particular situation or condition.

These message boxes apply to the user interface of a medical device and in such conditions as covered by FDA regulations; IEC and ISO requirements; and ANSI, AAMI, and other industry standards.

NOTICE: This section does not cover icons or messages related to alarm displays. The message boxes described in this specification are related specifically to software and system information (e.g., print job completed), errors (e.g., file did not save), cautions (e.g., file about to be over-written), and warnings (e.g., disk space low).

CUI guidelines will not supersede existing regulated standards for specific conditions related to property damage, physical injury, or death resulting from misuse of equipment or adaptation of existing equipment to non-recommended uses.

Furthermore, operators in countries or regions with regulations and requirements different from those listed above that are required by law to comply with local regulations should abide by local terms, conditions, and regulatory agencies with respect to standards relevant to risks associated with property damage, physical injury, or death.



## Recommendations

The display of Message Boxes disrupts the user's workflow. Therefore, use message boxes only when the intent is to interrupt the workflow and call undivided attention to the message.

## Message Box Types

There are three types of message boxes:

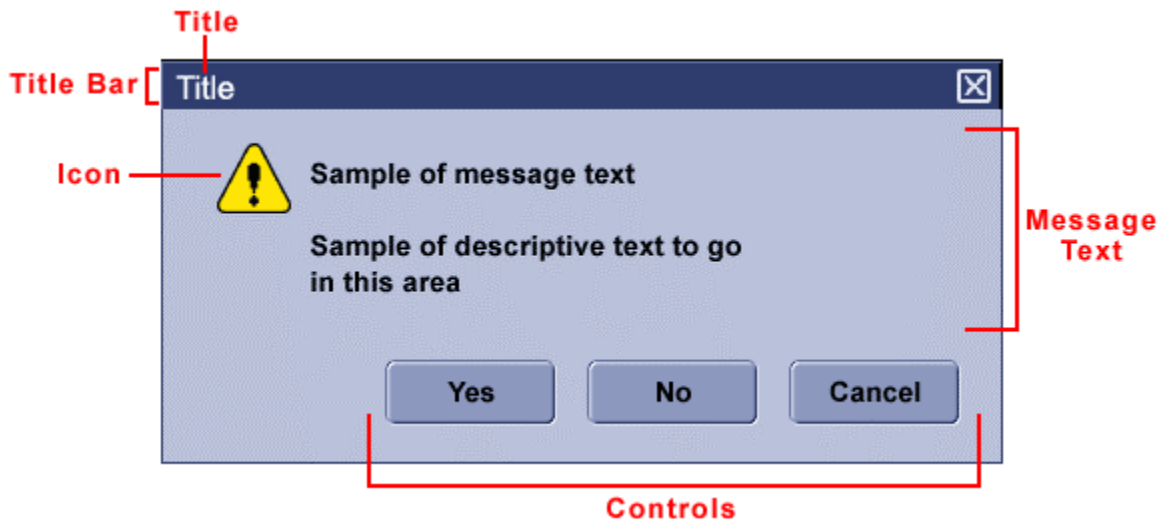
- Information: Provides information about the result of an action.
- Caution: Alerts the user to a condition that requires input or decisions before proceeding, such as an action with destructive or irreversible consequence.
- Warning: Informs the user of a serious problem that requires intervention or correction before work can continue. Can also indicate that a software error has occurred.

## Message Box Elements

Message boxes are comprised of these CUI standard elements:

- Title bar (if the platform supports title bars)
- Title
- Message text
- Message type-specific icon
- Controls

Figure 88: Message box elements



The box size should be appropriate to the length of the message. Consult an IDG/CUI Representative for assistance in choosing the size of message boxes.

**Req. 8863: Message boxes shall have a title.**

The title is a short description of the message type and purpose. This is often the name of the object. It is recommended that the application name be included in the title. This is helpful for the user to identify which application generated the message if multiple applications are running.

The title of the message is always the top-most text in the message box and left justified. Platforms that support title bars should place the title in the title bar.

**Req. 8864: Message boxes that contain error codes shall always have a descriptive title.**

Message boxes should not use the words “caution”, “warning”, or “error” as the entire title. That is, the title must have a descriptive phrase that clearly summarizes the message.

Message boxes should not use an error code as the entire title. Codes are helpful to developers resolving the problem, but the user needs a descriptive phrase in addition to the code to be able to understand the error.

**Table 56: Examples of good and bad Message Box titles**

Good Titles	Bad Titles
Warning – File did not save	Warning!
Error 45598– Cannot write to disk	Error 45598
Caution – Irreversible action	[Application Name]

If supported by the platform, the close box should be removed from the title bars of Caution and Warning Message Boxes. If the close box cannot be removed, it should have the same effect as a “Cancel” button. This is so that users will not dismiss an important warning condition without first acknowledging that the message content was brought to their attention.

Only information messages may contain a close box in the title bar. (The close box should be positioned on the far right end of the title bar.)

Caution and Warning message boxes should be dismissed by the use of CUI controls inside the message box, as described in Req. 8867.

**Req. 8865: Message boxes shall not include controls that re-size, enlarge, or minimize the box.**

This includes buttons on the title bar or re-size controls on the borders of the box.

This is so that users will not dismiss or minimize an important warning condition without first acknowledging that the message content was brought to their attention.




**Req. 8866: Message boxes shall have descriptive message text.**

Provide the user with meaningful information. Use the guidelines for message content as outlined in section 14.7.2 Error Messages (p. 166).

Message boxes should use the appropriate icon for the message type, as shown in Table 57.

It is recommended that programs use icons that match the symbol and color of the CUI icons from the Icon Database. Applications may use operating system supplied icons only if the supplied icons use the same symbols and colors as the CUI icons.

**Table 57: Icons for message boxes**

Message Type	Information	Caution	Warning
Icon			

**Req. 8867: Message boxes shall contain controls to interact with or dismiss the message box.**

Message boxes need controls allowing the user to dismiss the message box or choose from a set of options in order to resolve the situation that prompted the message. The number of controls and the options presented depend on the message box type.

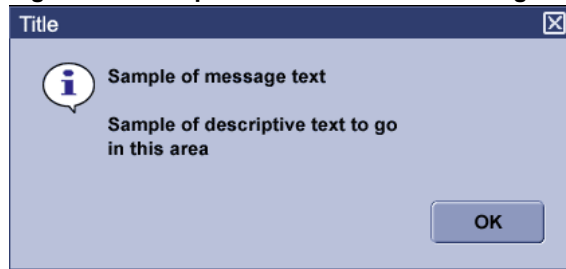
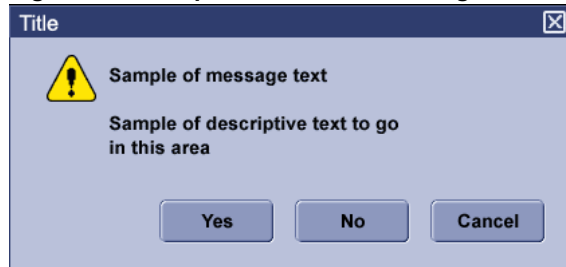
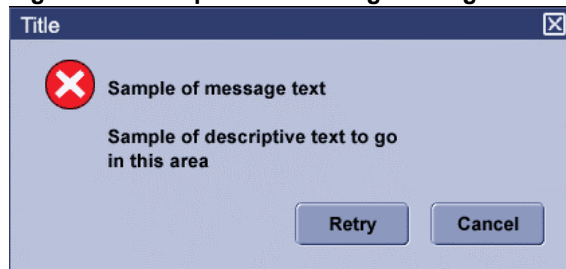
The controls are usually CUI standard buttons (see section 7.2 Command Button, p. 59) If the need arises to add other types of controls, they should be appropriate to the response options available to the user.

It is recommended that the least destructive option be set as the default choice.

The following are the recommended options:

**Table 58: Recommended message box controls**

Message Type	Recommended Options	Example Message
Information	OK Does not offer any options. The user acknowledges and dismisses the message by clicking the OK button.	The test has been completed successfully. You can now backup your data.
Caution	Yes    No    Cancel	Replace the existing copy of 'My Document'?
Warning	Retry            Cancel	The file could not be saved.

**Figure 89: Example of an Information message****Figure 90: Example of a Caution message****Figure 91: Example of a Warning message**

## ***Behavior and Placement***

Message boxes are secondary windows and always appear over any non-message windows from the parent application.

Message boxes only appear when the application or window that generated the message is active.

Message boxes generally appear in the center of the active application or window that has generated the message.

**Req. 8868:** When multiple information, caution, or warning message boxes appear at once (or in close succession), messages that are critical to human safety shall not be obscured by other messages.

**Req. 14593:** The system shall refuse to perform operations that effect human safety until the issue is addressed.

For example, the ability to initiate a scan may be disabled until the safety issue is resolved.

# 14.7 Messages

## 14.7.1 General Message Guidelines

**Req. 14594:** Messages shall be succinct.

**Req. 14595:** The information of greatest importance shall be given priority.

Use the following guidelines when writing messages for the user interface. These guidelines apply to all messages, regardless of where they appear in the UI (e.g., message boxes, status messages in the footer):

1. Use messages when and where they are needed.  
Give users messages and feedback in the following situations:
  - To inform the user of a potentially hazardous situation
  - When users must respond or make a decision
  - When users must correct data entry
  - To confirm a destructive action, such as deleting
  - When a process will take longer than 2 seconds and there is not useful indication that the system is performing the requested process. (A “working” icon may be displayed to inform the user that the system has not frozen.)
2. Be descriptive.  
If possible, use more than one line for the message. Put the most important information at the beginning of the message. Because many users do not read messages thoroughly, try to make your button labels as descriptive as possible, rather than always using OK and Cancel. For example, use a Save button rather than just OK in a Save dialog box.
3. Provide control (button) text that answers questions directly.

**Req. 8862:** In a message box, controls labeled OK or Cancel shall only be used to confirm actions or acknowledge information.

If the message asks a question, do not use OK as a button label. Instead, use Yes, No and Cancel buttons to answer a question in a message. (OK, instead of Yes and No, can be confusing when answering questions.)

4. Use present tense and active voice.  
Use active voice rather than passive voice for messages. Users respond more quickly and accurately to active voice. Use the imperative active voice, that is, the subject of the sentence (“you”) is not stated.

**Table 59: Active and Passive Voice**

	Definition	Examples
Imperative active voice	The subject of a sentence does the action the verb describes.	<ul style="list-style-type: none"> <li>▪ Complete the form.</li> <li>▪ Have your supervisor complete the form.</li> </ul>
Passive voice	The subject of a sentence is acted upon instead of performing the action the verb describes.	<ul style="list-style-type: none"> <li>▪ The form will be completed.</li> <li>▪ The form will be completed by your supervisor.</li> </ul>

5. Use sentence format.
6. Use complete sentences (including articles): “The image cannot be displayed.” not “Image not displayed.”
7. Do not use nouns as verbs.
8. Do not “yell” at the user by using exclamation points (!) or ALL CAPS.
9. Do not use abusive or unprofessional language.
10. Avoid words with other meanings or connotations in a medical environment, such as “abort,” “destroy,” “kill,” “fatal” and “invalid.”  
In a medical environment, “invalid” most frequently refers to a chronically ill or disabled person. Avoid using the term to prevent confusion with a meaning of “not valid” or “incorrect.”
11. Use jargon sparingly. Use terms the users understand.
12. Avoid acronyms. Use them only if they are well known to the users and understood globally.
13. Do not use the “and/or” combination or contractions (can’t, don’t, etc.) because they may not be translated correctly.

## 14.7.2 Error Messages

An error message tells the user what is wrong and indicates how to resolve the problem. When an error message appears, users often believe that they have done something wrong. In an error message, include:

1. What went wrong. Use positive wording to tell users what happened rather than what they did not do or should not have done.
2. How to resolve the problem. Tell the users what action they should take to correct the problem or how to prevent it from happening in the future.

**Table 60: Examples of Good and Bad Error Messages**

Good Message	Bad Message
<p>The file did not save correctly and became corrupted.</p> <p>To restore the file, press [CTRL]+[ALT]+[R].</p> <p>Then save the file in RTF format: File menu &gt; Save As &gt; Format &gt; RTF</p>	<p>You did not save the file correctly.</p> <p>(No file restore information)</p>
<p>This function requires access Level 1. You currently have access Level 2. Contact the System Administrator to have the correct access level assigned.</p>	<p>Access denied.</p>

# 14.8 Text/Data Entry and Display

## 14.8.1 General

The CUI specifications in sections 14.3 Labels and Text Fields (p. 150), 14.4 Text Alignment (p. 152), and 7.6.2 Text Field (single line input) (p. 67) should be adhered to where applicable. Longer text fields and tables should conform to CUI Controls sections 7.6 Text (p. 67) and 7.11 Lists, Tables and Trees (p. 83).

Formats supplied by the operating system are acceptable if the CUI standard cannot be implemented.

Where applicable, local standards for data entry (such as date, time, and names) supersede the CUI recommendations.

## 14.8.2 Delimiters

Delimiters are characters or strings used to separate or mark the start and end of items of data in a field. Examples of common delimiters are the comma (,), decimal point (.), hyphen (or dash) (-), and forward slash (/).

**Table 61: Examples of common delimiters**

Data type	Delimiters	Example
Numbers and Currency	Comma ( , )	1,234.567
	Decimal point ( . )	\$1,234,567.89
Date	Hyphen or Dash ( - )	2004-31-12
	Forward slash ( / )	2004/31/12
Telephone and Fax numbers	Hyphen or Dash ( - )	800-555-1234
		12-34-5678901
Time	Colon ( : )	12:34:15 AM
		22:15:36

**Req. 8869: The screen shall indicate the expected data entry format for the field.**

Users need to know the expected format for the data field. The expected format may be shown with delimiters and/or prompt text near the fields.

**Req. 8870:** Users shall not be required to enter delimiters where the number of characters in the field is known and auto-focus can be utilized.

There are several ways that this may be accomplished, including, but not limited to:

- Have the delimiters appear automatically as the user enters the data or upon exit from the field.

**Figure 92: Example of automatically appearing delimiter (the comma appears automatically)**



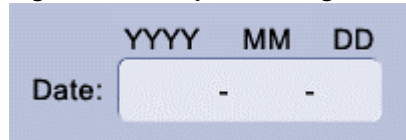
- Use a delineated field where the entry area is divided into discrete segments. The cursor should automatically move between the delineated fields as the data is being entered.

**Figure 93: Example of separated fields without prompt text**



- Use a delineated field where the entry area is a single field with the delimiters shown as static text within the field.

**Figure 94: Example of a single delineated field with prompt text**

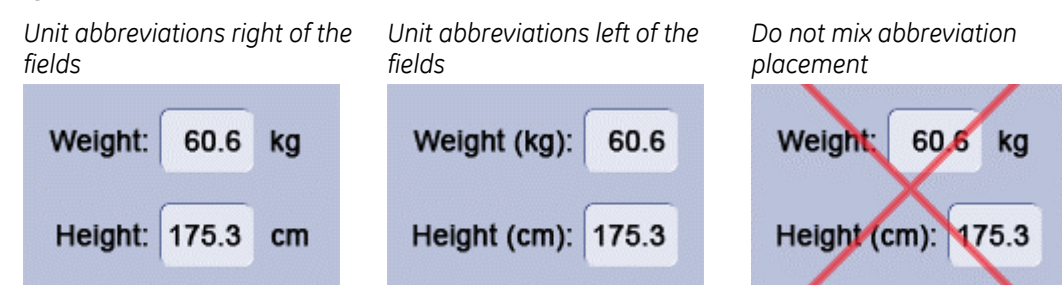


## 14.8.3 Unit Abbreviations

**Req. 8871:** Specified unit abbreviations shall be displayed consistently throughout the application.

It is recommended that applications use the ISO 31 abbreviations for units of measure.

**Figure 95: Examples of text labels with abbreviation**





## 14.8.4 Name, Address, and Contact Information

Name, address, contact information, and other similar information should conform to language standards established for the country of use.

Where applicable, follow the Capitalization Guidelines outlined in section 8.3 Capitalization (p. 129). Use the English language convention as a default.

English language name format is as follows:  
Last, First Middle (or initials)

Example: Doe, John James F.

**Figure 96: Example of name information**



A screenshot of a form with two input fields. The first field is labeled "Last Name:" and contains the text "Doe". The second field is labeled "First Name:" and contains the text "John".

## 14.8.5 Numeric Information

Numeric information should conform to local standards with respect to the use of units, decimal places, decimal commas, and spaces. When in doubt, the U.S. standard will be used as follows:

**Figure 97: Example of numeric information**



A screenshot of a form with one input field. The field is labeled "Numeric Information:" and contains the text "1,234 . 56".

## 14.8.6 Mixed Alphanumeric Information

If entered data is a mixture of letters and numbers, it is recommended that the alphabetic characters be displayed in upper case.

**Req. 14596:** If a field requires letters of a specific case, the user shall not be required to enter the text in that case. (E.g., The field should auto format to the required case upon field validation.)

**Figure 98: Example of mixed alphanumeric data with upper case letters**



A screenshot of a form with one input field. The field is labeled "Hospital Number:" and contains the text "GTY123".

## 14.8.7 Date Related Information

The format for displaying Admission date, current date, time, and other date related information should be localized. ISO 8601 recommends using the following format: YYYY/MM/DD (e.g., 2004/01/26 indicates January 26, 2004).

Acceptable formats for localization are:

- YYYY/MM/DD (ISO recommended standard)
- MM/DD/YYYY
- DD/MM/YYYY

Date and time should be expressed numerically. That is, the month is not written out or abbreviated. For Example, "2004/01/26", not "2004 January 26" or "2004 Jan 06."

If separators are used, forward slashes ( / ) are preferred.

**Figure 99: Examples of date information, with and without separators**

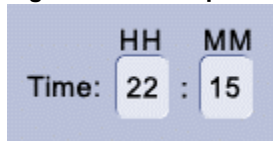


## 14.8.8 Time

The format for displaying time should be localized according to regional standards for the use of AM, PM, 12 or 24 hour clocks, and the use of colons as separators. The time must be displayed in a consistent format throughout the interface. Operating system formats may be used if they can be configured to the applicable local standards.

ISO 8601 recommends using the 24 hour format, with or without seconds: hh:mm:ss (e.g., 22:15:30 indicates 15 minutes and 30 seconds past 10PM)

**Figure 100: Example of time**



If required, seconds may be included:

**Figure 101: Example of time with seconds**



## 14.8.9 Required Fields

Required fields are to be indicated by an asterisk to the top left of the label to indicate the field is required. The asterisk has the same attributes as the label text (color, font, states).

**Figure 102: Example of a required field**



## 14.9 Keyboard Interaction

Keyboard interaction allows the user to more quickly perform repetitive tasks (such as data entry) and work without the use of a mouse.

### 14.9.1 Navigation

The user interface should provide a means for the users to move between associated fields within a defined area of a screen without the use of the mouse.

These specifications apply when tab behavior is under application control. Browser-based web applications may not be able to implement Tab key field navigation.

**Req. 8872: If supported by the platform, the Tab key shall be used to move the focus to the next defined object.**

**Req. 8873: If supported by the platform, the Shift + Tab key combination shall be used to move the focus to the previous defined object.**

The movement between fields will conform to regional language standards for reading, such that Western countries will move left to right, and top to bottom. Use the Western standard as the default.

The arrow keys may be used when the interface does not require those for other functions. The up arrow and down arrow keys are used to navigate between single-line text boxes or within a group of checked boxes or command buttons.

Arrow keys may be used to navigate between option button choices and within list box controls.

### 14.9.2 Shortcuts

Shortcuts are keystroke combinations that initiate actions in lieu of selecting a specific button or menu option. Keyboard shortcuts typically consist of one or more modifier keys with a character key. Character keys include function keys (e.g., F1) and Delete.

Specify keyboard shortcuts for frequently used menu items. When appropriate, display the shortcut on the same line as the item and aligned on the right edge of the menu drop list.

**Figure 103: Example of shortcuts and mnemonics displayed on a menu**

Menu 1	
<u>N</u> ew	Ctrl+N
<u>O</u> pen	Ctrl+O
Close	
<u>S</u> ave	Ctrl+S
Save As...	
Page Setup...	
Print	Ctrl+P
Exit	

Keyboard shortcuts should be displayed by using standard abbreviations for key names, for example: Control = Ctrl. It is recommended that mnemonics (memory aids, i.e., the underlined letters shown in Table 62) be used wherever shortcuts keys are present, however it is not required. They are to be indicated as shown in Table 62 by underlining the letter meant to represent the function.

**Req. 8874: Programs with keyboard shortcuts shall implement the core set listed in Table 62.**

Table 62 shows the basic keyboard shortcuts that should be common to all applications. The application may use other shortcuts in addition to the core set.

**Table 62: Core set of keyboard shortcuts**

Command and Mnemonic	Keyboard Shortcut
Copy	Ctrl + C
Cut	Ctrl + X
New	Ctrl + N
Open	Ctrl + O
Paste	Ctrl + V
Print	Ctrl + P
Save	Ctrl + S
Undo	Ctrl + Z

## 14.10 Ellipsis Usage

In the most general sense, the appearance of an ellipsis mark (...) on a control in a UI means “more.” For example, it can indicate that more settings must be configured to accomplish the task or that more information is available.

### 14.10.1 Ellipsis on Buttons and Menus

The ellipsis is used after a button label or menu item to indicate that a dialog box will be displayed. The user then interacts with the dialog box to complete the function.

**Req. 12371: Ellipsis shall be displayed on buttons and menu items that launch dialog boxes.**

Ellipsis on buttons should not be used to indicate that a pop-up or drop-down menu will appear when selected. Use an arrow if a button triggers a pop-up or drop-down menu (see section 7.10 Menus, p. 78).

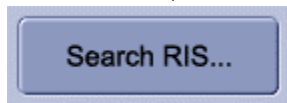
If a button has a truncated label, ellipsis are used to indicate the truncation. However, it is preferred that the buttons be sized so that the labels are not truncated or that the label be abbreviated. If ellipsis are used, a tooltip on mouseover should provide the full text string.

**Req. 12373: When used on a button or menu, the ellipsis shall use the same font and font weight as the button label or menu item label.**

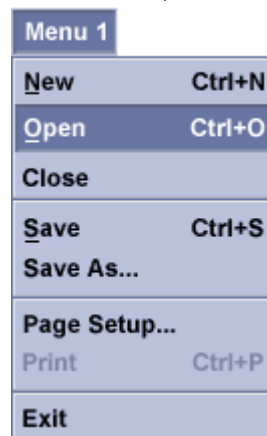
Ellipsis are considered part of the label; therefore, they should be treated the same as the rest of label and taken into account when centering and wrapping the text. See section 7 CUI Controls (p. 58).

**Figure 104: Examples of ellipsis on buttons and menus**

*Button with ellipsis*



*Menu with ellipsis*



## 14.10.2 Ellipsis in Tables

The ellipsis mark is used in tables to indicate truncated data in a column header or column.

**Req. 12374:** If ellipsis are used to indicate truncated data in a column header or column, the user interface shall provide a method that allows the user to see the entire data string.

Methods to show the entire data string include, but are not limited to: tooltips on mouseover, resizing of the column, or a secondary window.

See section 7.11.2 Table (p. 84) for more requirements relating to tables.

**Figure 105: Column resizing**

*Column expanded*

SPS Description	RIS Protocol
Aortic Dissection	Protocol
Chest Abd Pelvis	Protocol
Chest Abd Pelvis	Protocol

*Column resized and showing ellipsis*

S...	RIS Protocol	Local Protocol
A...	SPS Description	Protocol
C...	Protocol	Protocol
C...	Protocol	Protocol

## 14.11 Expand and Collapse Functions

Some controls can be expanded or collapsed. This section defines the basic behaviors and appearance of these functions on controls.

The expansion or collapse function can be defined as any area that allows the user to hide or expose portions of the area or controls that allow the user to expose additional functions or configuration options.

This includes:

- An area that has the states of open and closed.
- A sub-menu that is exposed when the parent menu item is activated.
- A configurable button that exposes a selection of items when it is activated

A single arrow on a control indicates that more options or controls will be exposed when it is activated.

**Req. 14597:** If a control is expandable / collapsible it shall display an indicator arrow.

**Req. 14598:** An arrow shown in a tool palette header shall only be used to expand or collapse.

**Req. 14599:** If supported by the platform, the indicator arrow shall change to point down when collapsed and up when expanded.

The arrow on the collapsible Tool Palette shown in Figure 106 points down when collapsed and up when expanded.

**Figure 106: Collapsible Tool Palette**



**Req. 14600:** An arrow shall be used to indicate that a popup, palette, or menu will appear upon interaction.

Figure 107 shows how arrows are used on command buttons, menus, and toolbar/tool palette buttons.

**Req. 14601:** The indicator arrow shall always be visible. (That is, displayed on the control at all times.)

If supported by the platform, it is recommended that the arrow on menus and buttons point in the direction where the sub-menu or options will appear.

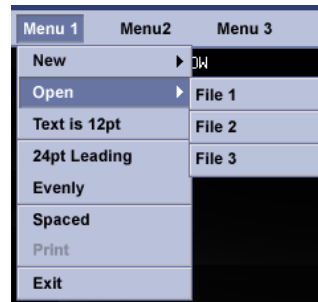
Figure 107 shows the three ways in which an arrow can be used on a button or a menu item.

**Figure 107: Examples of arrows on controls**

*Arrow icon indicating pop up list*



*Arrow icon indicating sub-menu*



*Arrow icon indicating configurable selection for a button*



# 15 Web Specifications

The CUI Visual Design and Requirements Specification contains requirements and recommendations specific to GEHC Web Applications implemented in the CUI style.

GEHC Web Applications are defined to be applications that use internet technology to retrieve and interact with data that resides remotely.

There are two types of GEHC Web Applications:

- **Browser-based web applications:**  
Products that are accessed and displayed within a standard internet or intranet browser. This type of product maintains the UI framework/display of the selected browser. That is, the browser title bar/toolbar areas are displayed. These products generally follow established HTML guidelines for links, navigation, and controls.
- **Embedded web applications:**  
Products that are accessed by selection of a feature or control from within a GEHC product application. This type of product maintains the UI framework and display of the parent application. That is, the browser title bar/toolbar areas are not displayed. These products follow either the CUI standards for appearance and controls or the established “look and feel” of the parent application.

## 15.1 Web Fonts

Browser-based web applications should specify the font as follows: Arial, Helvetica, Sans Serif

## 15.2 Hyperlinks

**Req. 8858:    Hyperlink text shall apply one color for visited links and a different color for unvisited links.**

A visited link should be a less-saturated color of the unvisited link. Please work with an IDG/CUI Representative to define hyperlink colors

**Req. 8859:    The colors used for hyperlinks shall not be used for text that is not hyperlinked.**

Hyperlinked text should be underlined in browser-based web applications. Underlining should only be used to show hyperlinked text. This helps to avoid confusing the user as to what is a hyperlink and what is not.



## 15.3 Scrolling in Web Applications

Browser-based web applications should be designed to avoid horizontal scrolling when the browser is displayed full screen and no browser panels (e.g., history, search) are displayed.

## 15.4 Web Screen Resolution

**Req. 5258: Browser-based web applications whose visual design is intended for static layout shall be designed to the lowest common screen resolution used by the intended audience.**

Dynamic layouts that expand and contract according to the user's screen resolution may deviate from this requirement.

As of January 2006\*, the majority (74%) of web users operate at a screen resolution of 1024x768 or higher. Though it should be noted that approximately 20% of users still operate at 800x600 resolution.

(\*source: [http://www.w3schools.com/browsers/browsers\\_stats.asp](http://www.w3schools.com/browsers/browsers_stats.asp))

## 15.5 Web Title Text

**Req. 5254: Browser-based web applications not using frames shall display a descriptive title in the browser title bar for each unique page.**

Web page titles are used by search engines to index the site and retrieve relevant information to a search query. A meaningful title facilitates web searches and provides users with information about the current page.

Browser-based web application content that is part of a frame set or pane within a main window cannot change the title bar.

## 15.6 Back and Forward Navigation for Web Applications

For browser-based web applications, the default web navigation mechanism of 'Back' and 'Forward' in the internet browser should not be disabled.

Deviations from this recommendation may be decided by business and technical reasons.

# 16 Bibliography and References

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# 17 Review Record

## 17.1 Revision A

The document was reviewed from 20 October 2006 to 1 November 2006. A review discussion was held on 9 November 2006. The review log is located on the Support Central - Global Design-Common User Interface website:

[http://supportcentral.ge.com/products/sup\\_products.asp?prod\\_id=15917](http://supportcentral.ge.com/products/sup_products.asp?prod_id=15917)

Updates from the 9 November 2006 review were made to the document. The revised document was reviewed 30 November 2006 to 1 December 2006. Additional changes from this review were incorporated into this document on 22 December 2006.

### 17.1.1 Change Summary

The complete record of changes is available on the Support Central - Global Design-Common User Interface website:

[http://supportcentral.ge.com/products/sup\\_products.asp?prod\\_id=15917](http://supportcentral.ge.com/products/sup_products.asp?prod_id=15917)

# 18 Previous CUI Releases Content

The following table summarizes the major content additions or removals from each CUI Requirements and Style release. Unless marked at a removal, the content is an addition to what had existed in the previous version(s).

Release & Date	Content
Version 1 28 June 2002	<ol style="list-style-type: none"> <li>1) Typography               <ol style="list-style-type: none"> <li>a) CUI recommended fonts (Arial, Helvetica, Albany)</li> <li>b) Font size (height)</li> <li>c) Anti-Aliasing</li> <li>d) Capitalization</li> </ol> </li> <li>2) Colors               <ol style="list-style-type: none"> <li>a) 24-bit/Full color table, P1 – 13 (including P6)</li> <li>b) Before and after examples</li> </ol> </li> <li>3) Identity / Branding</li> <li>4) Splash Screens</li> <li>5) Logon Screens</li> <li>6) About Boxes</li> <li>7) Desktop Image</li> </ol>
Version 2 27 September 2002	<ol style="list-style-type: none"> <li>1) Colors               <ol style="list-style-type: none"> <li>a) P6 - removed</li> <li>b) Auxiliary Colors</li> </ol> </li> <li>2) Basic UI Rules               <ol style="list-style-type: none"> <li>a) Labels</li> <li>b) Dialog Boxes</li> <li>c) Window Management</li> <li>d) Messages</li> </ol> </li> <li>3) GUI Building Blocks               <ol style="list-style-type: none"> <li>a) Buttons                   <ol style="list-style-type: none"> <li>i) Command</li> <li>ii) Toggle</li> <li>iii) Radio</li> <li>iv) Checkbox</li> <li>v) Touch Screen</li> </ol> </li> <li>b) Text                   <ol style="list-style-type: none"> <li>i) Read-only Labels</li> <li>ii) Info Graphics</li> <li>iii) Text Fields</li> <li>iv) Text Areas</li> <li>v) Password Field</li> </ol> </li> </ol> </li> </ol>

Release & Date	Content
Version 2 (continued)	<ul style="list-style-type: none"> <li>c) Range Controls                             <ul style="list-style-type: none"> <li>i) Scroll</li> <li>ii) Slider</li> <li>iii) Progress Bar</li> <li>iv) Menus                                     <ul style="list-style-type: none"> <li>(1) Drop-down</li> <li>(2) Pop-up</li> <li>(3) Sub-menu</li> </ul> </li> <li>v) Combo box</li> </ul> </li> <li>d) Lists, Tables, Trees                             <ul style="list-style-type: none"> <li>i) List</li> <li>ii) Table</li> <li>iii) Tree</li> </ul> </li> <li>e) Containers and Borders                             <ul style="list-style-type: none"> <li>i) Tabs</li> <li>ii) Tabs for Nav and Org                                     <ul style="list-style-type: none"> <li>(1) Horizontal Top</li> <li>(2) Horizontal Left</li> </ul> </li> <li>iii) Tabbed Tool Palettes                                     <ul style="list-style-type: none"> <li>(1) Horizontal</li> <li>(2) Vertical</li> </ul> </li> <li>iv) Palettes inside Org tabs</li> <li>v) Rounded Nav Tabs (Circular tabs)</li> </ul> </li> <li>f) Panel</li> <li>g) Scroll Pane</li> <li>h) Platform Support – CUI, Windows, Motif</li> <li>4) Icons                             <ul style="list-style-type: none"> <li>a) Top Access Icons</li> <li>b) Icon Characteristics</li> </ul> </li> </ul>
Version 2.1 20 December 2002	<ul style="list-style-type: none"> <li>1) Color palette optimization</li> <li>2) Icon requirements changes</li> </ul>
Version 3.1 16 May 2003	<ul style="list-style-type: none"> <li>1) Typography                             <ul style="list-style-type: none"> <li>a) Font Specs for Languages other than English                                     <ul style="list-style-type: none"> <li>i) Asian</li> <li>ii) Japanese</li> <li>iii) Chinese</li> <li>iv) Korean</li> <li>v) Russian</li> </ul> </li> </ul> </li> <li>2) Color                             <ul style="list-style-type: none"> <li>a) Low-Light Environments</li> </ul> </li> <li>3) Splash Screens and About Boxes                             <ul style="list-style-type: none"> <li>a) Screens without graphics</li> </ul> </li> <li>4) Logon Screens – removed (became common app)</li> </ul>

Release & Date	Content
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





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	Play Play Forward	Begins playing a video, sequence, series, images or frames.
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	Pause	Stops the playback temporarily. Resumes playing from the point playback was stopped.
	Stop	Stops the playback. If the video, sequence, series, images or frames are played again, resumes playback at beginning.
	Next Sequence Next Series Next Image Next Frame	Shows the next item.
	Previous Sequence Previous Series Previous Image Previous Frame	Shows the previous item
	Next Series Next Image Next Frame	Shows the next series, image or frame, when a product team defines two levels of image granularity.
	Previous Series Previous Image Previous Frame	Shows the previous series, image or frame, when a product team defines two levels of image granularity.
	Brightness/ Contrast	Change the brightness and contrast of images.
	Invert	Reverses image color dark for light.
	Flip Left/Right Flip Vertical	Flips the image on the vertical axis: switches image left for right
	Flip Top/Bottom Flip Horizontal	Flips the image across the horizontal axis: switches top for bottom
	Rotate Right 90 Degrees Rotate Right	Rotates the image 90 degrees clockwise.
	Rotate Left 90 Degrees Rotate Left	Rotates the image 90 degrees counter-clockwise.
	Free Rotate Right Free Rotate	Rotates the image clockwise.
	Free Rotate Left Free Rotate	Rotates the image counter-clockwise.

Icon	Tool Tip Text	Description of Function
	Return to Default	Restores the image to its original state.
	Zoom In	Increases the magnification of the image.
	Zoom Out	Decreases the magnification of the image.
	Measure Distance	Measures the distance between two points in a straight line.
	Measure Angle	Measures the angle between two points in relation to a pivot point.
	Ellipse ROI	Draws or places an oval or circle on an image.
	Rectangle ROI	Draws or places a rectangle on an image.
	Polygon ROI	Allows user to draw or select an area with more than four sides.
	Trace ROI	Selects an area by drawing in a free-format style.
	Spline Trace	Outlines an area and then allows the user to adjust the shape by clicking and dragging any of the anchor points.
	Erase	Erase an ROI.
	Report Cursor	Displays the current location and pixel value under the point of the cursor on an image.
	Lock Exam Lock Series Lock Images	Allows a user to lock an exam, series or images so that they may not be deleted, copied or moved.
	Unlock	Unlocks an item to allow to delete, archive etc.
	User Annotation	Allows user to create annotation on images.
	Grid On Grid Off	Toggle behavior to turn grid display on/off over image.
	Hide Graphics Show Graphics	Toggle behavior to hide/show graphics on image.
	Screen Save Screen Capture	Allows user to capture a screen save of the images.
	Undo	Undo the last command.
	Redo	Redo the last command.
	Cut	Temporarily removes an item to temporary storage for later restore.  The scissors symbol may be horizontal or vertical, but should be oriented consistently within the product.

Icon	Tool Tip Text	Description of Function
	Copy	Duplicates a selected item, creates a copy in temporary storage for later restore/paste to an area.
	Paste	Restore a previously copied or cut item from the temporary storage.
	Save	Saves item.
	Delete	Permanently deletes files or images from disk.
	Exit	Exits an application.
	Help	Opens a help dialogue/information.
	Find	Finds item.
	Print	Indicates printer status. See section 5.5.1 Print (p. 36) for print states.
	Disk Space (amount of space remaining)	Indicates the amount of remaining space on a hard disk. The Tooltip states the amount of space remaining. See section 5.5.3 Disk Space (p. 38) for disk space states.
	Battery (amount of charge remaining)	Indicates the amount of remaining battery charge. The Tooltip states the amount of charge remaining. See section 5.5.2 Battery (p. 37) for battery states.
	iLinq	Indicates iLinq connection status. See section 5.5.4 iLinq (p. 39) for iLinq states.
	Information	Alerts user to more information.
	Warning	Alerts user to caution message.
	Error	Alerts user to a error message.

## 21 Appendix B: Minimum Size Chart

Because there is no one common monitor size or screen resolution across all programs, pixel measurements for controls or point sizes for fonts cannot be specified. CUI is moving towards specifying the literal screen size of the control or text in the objective standard of millimeters. For example, if a control is specified to be 12.7mm high, it is expected that it will appear to be 12.7mm on screens sized 1024x768 or 1920x1200 and in any resolution.

The following table lists the **minimum** recommended sizes for mouse-based and touch-screen based interfaces. Controls and spacing may be larger.

**Table 64: Minimum sizes**

*\* Typically, the width of a control varies by the content. In some cases of vertically oriented controls, the height varies.*

Control	Element	Mouse	Touch
<b>General size recommendations</b>			
rounding	corner radius	1	1
labels	space between label and control (vertical or horizontal)	2	2
text indent	space between text and any other control element	2	2
focus	space between text and focus line	2	2
<b>Individual size recommendations</b>			
command button	height, option 1	7	13
	height, option 2	11	19
	height, option 3	14	n/a
	width	varies *	varies *
	text (font size)	3	3
	space between buttons, option 1	n/a	3
	space between buttons, option 2	n/a	13
	focus ( from outside border)	1	1
	icon	6	6
tooltip	text (font size)	3	3
	box around text	6	6
toggle button	height	11	19
	width	varies *	varies *
	text (font size)	3	3
	focus (from outside border)	1	1
	icon	6	6
radio button	height (of target area)	13	14
	width	varies *	varies *
	checkbox field	5	5
	text (font size)	3	3
checkbox	height (of target area)	13	14
	width	varies *	varies *

\* Typically, the width of a control varies by the content. In some cases of vertically oriented controls, the height varies.

Control	Element	Mouse	Touch
checkbox	circle field	5	5
	text (font size)	3	3
text label	title on P3	3	3
	patient name	3	3
	field label (horizontal - space between label and edge of field)	3	3
	field label (vertical - space between label and edge of field)	2	2
text field	height	11	13
	width	varies *	varies *
	text (font size)	3	3
text area	height	varies *	varies *
	width	varies *	varies *
	text (font size)	3	3
combo box	height	11	13
	width	varies *	varies *
	icon	6	6
	text (font size)	3	3
	end button height	11	12
	end button width	11	12
	line height in drop down (area that turns color when selected)	6	11
spin box	height	11	13
	width	varies *	varies *
	text (font size)	3	3
scroll bar	height (horizontal scrollbar)	6	17
	width (horizontal scrollbar)	varies *	varies *
	height (vertical scrollbar)	varies *	varies *
	width (vertical scrollbar)	6	17
	end button height	6	16
	end button width	6	16
slider	track field height (horizontal slider)	2	2
	track field width (horizontal slider)	varies *	varies *
	sliding button width (horizontal slider)	6	11
	sliding button with pointer height (horizontal slider)	5	10
	sliding button without pointer height (horizontal slider)	6	8
	track field height (vertical slider)	varies *	varies *
	track field width (vertical slider)	2	2
	sliding button width (vertical slider )	6	8
progress bar	sliding button with pointer width (vertical slider)	5	10
	sliding button without pointer width (vertical slider)	6	11
	field height (horizontal progress bar)	5	5
	field width (horizontal progress bar)	varies *	varies *
	field height (vertical progress bar)	varies *	varies *

\* Typically, the width of a control varies by the content. In some cases of vertically oriented controls, the height varies.

Control	Element	Mouse	Touch
progress bar	field width (vertical progress bar)	5	5
menu - drop down	line height	8	13
	icon height	6	6
	text (font size)	3	3
	menu title	3	3
menu - pop up	line height	8	13
	icon	6	6
	text (font size)	3	3
	menu title	3	3
	button height	14	13
	button width	18	13
list	icon	11	11
	line height (area that turns color when selected/banding)	7	13
	width	varies *	varies *
	icon	6	6
	text (font size)	3	3
table	line height (area that turns color when selected/banding)	7	13
	width	varies *	varies *
	icon	6	6
	text (font size)	3	3
tree	line height	7	13
	width	varies *	varies *
	icon	6	6
	text (font size)	3	3
tab - type 1	horizontal tab with icon height	11	13
	horizontal tab with icon width	11	13
	horizontal tab without icon height	8	13
	horizontal tab without icon width	8	13
	vertical tab with icon height	11	13
	vertical tab with icon width	11	13
	vertical tab without icon height	8	13
	vertical tab without icon width	8	13
	icon height	8	8
tab - type 2	horizontal tab with icon height	8	13
	horizontal tab with icon width	varies *	varies *
	horizontal tab without icon height	8	13
	horizontal tab without icon width	varies *	varies *
	vertical tab with icon height	8	13
	vertical tab with icon width	varies *	varies *
	vertical tab without icon height	8	13
	vertical tab without icon width	varies *	varies *

\* Typically, the width of a control varies by the content. In some cases of vertically oriented controls, the height varies.

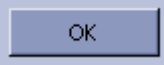


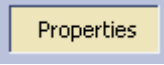

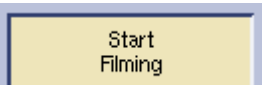
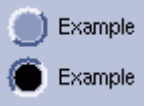
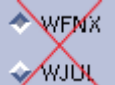


Control	Element	Mouse	Touch
tab - type 2	icon height	8	8
Panel	border line	0.4	0.4
scroll pane		n/a	n/a
split pane		n/a	n/a
tool palette	icon height for tabs in palette	8	8
	icon width for tabs in palette	8	8
anc sys stat	space between icons	3	3
	icon height (max)	8	8



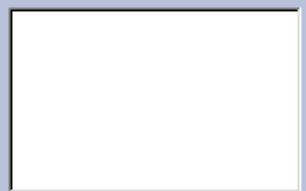
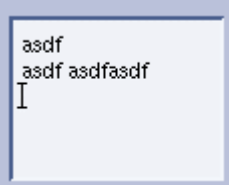





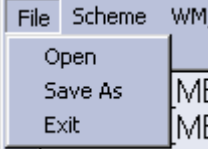
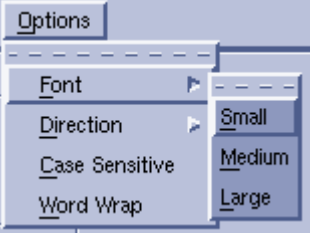






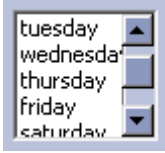
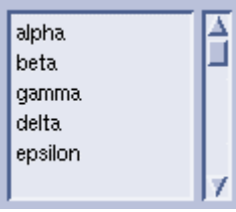

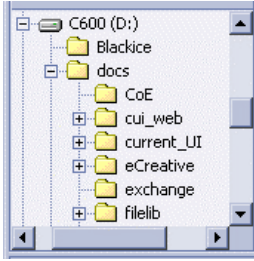
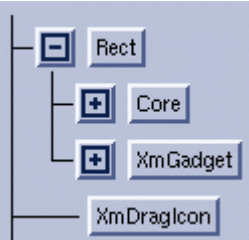
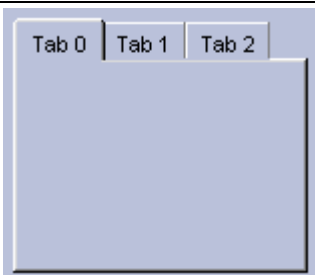



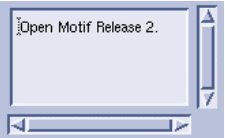


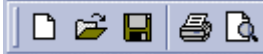
# 22 Appendix C: Legacy Style Implementation

The following table shows solutions for legacy products for which an executive decision has been made that full CUI compliance is not achievable due to platform constraints or prohibitive cost to retrofit the user interface.

Table 65: Legacy styles

Control Type	Windows	Motif
Command Button		 <p>Use the following colors if Motif does not apply highlights or shadows correctly to buttons on a P9 background:</p> <ul style="list-style-type: none"> <li>▪ P7 top and left highlight</li> <li>▪ P10 bottom and right shadow</li> </ul>
Toggle Button	 	 
Radio Button	<input type="radio"/> Radio1 <input checked="" type="radio"/> Radio2	<p>USE the round look available as a toggle button option below:</p>  <p>DO NOT use the diamond shaped RadioBox buttons below:</p> 
Checkboxes	<input checked="" type="checkbox"/> Check2 <input type="checkbox"/> Check1	<p>USE the checkbox option below:</p>  <p>DO NOT use the square shape with fill below:</p> 

Control Type	Windows	Motif
Text Field		 Use the following colors if Motif does not apply highlights or shadows correctly to editable text fields on P9: <ul style="list-style-type: none"> <li>▪ P10 top and left shadow</li> <li>▪ P8 bottom and right highlight</li> </ul>
Text Area		
Scroll Bar		
Slider		 91.5
Progress Bar		No progress bar class. Emulate CUI standard if a custom one is created.
Menus		
Combo Box		Use Combo Box rather than Option Menu because the raised arrow is closer to the CUI standard than the raised dash.  Editable  DO NOT use the Option Menu below. 

Control Type	Windows	Motif
List		
Table		No table class. Emulate CUI standard.
Trees	 <p>(Use the same tree branch graphics as CUI for the default.)</p>	 <p>(The node graphics can be replaced in Motif. Use the same graphic design as CUI.)</p>
Tabs		Apply CUI colors to custom Motif tabs.
Panel		
Scroll Pane		
Menu Bar		
Toolbar	Use standard Windows Toolbar 	No Toolbar.

## 23 Appendix D: Common Applications

The documents listed in Table 66 describe “Common Applications” developed by the IDG in collaboration with CSE-P that utilize the current CUI style guide. These applications are mostly DI centric and are going to be utilized by multiple product lines. Check MyWorkshop for the most current revision.

**Table 66: Common project documents in MyWorkshop**

Document Name	MyWorkshop Document Number and Link
Common Logon User Interface Requirement Specification (CL-UIRS)	DOC0042207 <a href="http://gemselib.med.ge.com/ematrix/documentcentral/eLibDocument.jsp?name=DOC0042207&amp;rev=1">http://gemselib.med.ge.com/ematrix/documentcentral/eLibDocument.jsp?name=DOC0042207&amp;rev=1</a>
DICOM Multi-Modality Worklist User Interface Requirement Specification (DMWL-UIRS)	DOC0235855 <a href="http://gemselib.med.ge.com/ematrix/common/eLibDocument.jsp?type=type_ProductRequirementsorSpecificationsDocument&amp;name=DOC0235855&amp;rev=2">http://gemselib.med.ge.com/ematrix/common/eLibDocument.jsp?type=type_ProductRequirementsorSpecificationsDocument&amp;name=DOC0235855&amp;rev=2</a>
CUI Image Display Tools	DOC0065392 <a href="http://gemselib.med.ge.com/ematrix/documentcentral/eLibDocument.jsp?name=DOC0065392&amp;rev=1">http://gemselib.med.ge.com/ematrix/documentcentral/eLibDocument.jsp?name=DOC0065392&amp;rev=1</a>
Session and Desktop Management SRS	DOC0251169 <a href="http://gemselib.med.ge.com/ematrix/common/eLibDocument.jsp?type=type_GenericDocument&amp;name=DOC0251169&amp;rev=1">http://gemselib.med.ge.com/ematrix/common/eLibDocument.jsp?type=type_GenericDocument&amp;name=DOC0251169&amp;rev=1</a>
Protocol Management Software Requirement Specification (SRS)	DOC0234818 <a href="http://gemselib.med.ge.com/ematrix/common/eLibDocument.jsp?type=type_ProductRequirementsorSpecificationsDocument&amp;name=DOC0234818&amp;rev=1">http://gemselib.med.ge.com/ematrix/common/eLibDocument.jsp?type=type_ProductRequirementsorSpecificationsDocument&amp;name=DOC0234818&amp;rev=1</a>
Graphic Rx Software Requirement Specification (SRS) <b>NOTE:</b> This document does not reside in MyWorkshop.	14.SRS.GRX_2_rev3 <a href="http://alpharetta.folders.ge.com/foldersIndex.do?entity_id=1779730042&amp;sid=42&amp;sf=1">http://alpharetta.folders.ge.com/foldersIndex.do?entity_id=1779730042&amp;sid=42&amp;sf=1</a> <a href="http://alpharetta.folders.ge.com/foldersIndex.do?entity_id=1779730042&amp;sid=42&amp;sf=1">http://alpharetta.folders.ge.com/foldersIndex.do?entity_id=1779730042&amp;sid=42&amp;sf=1</a>
Image Management SRS/UIRS	DOC0260130 <a href="http://gemselib.med.ge.com/ematrix/common/eLibDocument.jsp?type=type_ProductRequirementsorSpecificationsDocument&amp;name=DOC0260130&amp;rev=2">http://gemselib.med.ge.com/ematrix/common/eLibDocument.jsp?type=type_ProductRequirementsorSpecificationsDocument&amp;name=DOC0260130&amp;rev=2</a>